Emergency Management In Malawi:
A Work in Progress With a Strong Foundation

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Regardless of the country in which one lives, Mother Nature and humankind have the potential to cause immense devastation. This is especially the case when the worst of these elements interact with society. Malawi is not immune to this fact as she has encountered various disasters throughout her history. As with every responsible government, Malawi maintains an emergency management program to address her response to the hazards which threaten her. While the emergency management system in Malawi is severely improvised, she has started off on the right footing; however, this country still has many strides to make in order to sustain and enhance an emergency or disaster management program with the proper tools to effectively address the hazards that threaten her. This paper discusses emergency management in Malawi by addressing the following topics: hazards; vulnerabilities; disaster history and experience; emergency management policy development; and the challenges and opportunities that exist within the Malawian emergency management system.

Hazards that Threaten Malawi

Malawi is a landlocked country located in Central Southeast Africa. Its neighbors are Tanzania to the northeast, Zambia to the northwest, and Mozambique, which surrounds Malawi from the southeast to the southwest. Malawi spreads over 118,480 square kilometers, seventy-nine percent is land with twenty-one percent of the total area consisting of bodies of water (the largest, of which, is Lake Malawi). Malawi is a democratic country with a strong national government. The country is divided into twenty-eight administrative localities, or districts, each overseen by a district commissioner who is the chief executive for the district. There are three major cities in Malawi: Blantyre (Blantyre District), located in the southern region; Lilongwe (Lilongwe District), the capital of the country, located in the central region; and Mzuzu (Mzimba District), located in the northern region. Malawi's economy is highly reliant on agriculture, which accounts for approximately 90% of its export earnings and 45% of its gross domestic product (Office of the President and Cabinet, 2005).

Malawi has a sub-tropical climate with two seasons: rainy and dry. The rainy season is between November and May while the dry season is between May and November. The topography of Malawi is characterized by rolling hills and plateaus. The highest peak is Mount Mulanje, reaching 3,002 meters, in southern Malawi.

A study of hazards that have impacted Malawi in the past shows that natural hazards pose the greatest threat to the people, property, and economy of the country. For example, out of the 298 times that Malawi has been impacted by a hazard since 1946, eighty-nine percent have been natural hazards while the remaining eleven percent have been human-generated events. The following text discusses the various hazards that impact Malawi, beginning with the most frequently occurring. The data for this section was obtained from the Malawi Office of the United Nations Development Programme (UNDP-Malawi) (T. Msowoya: personal email, February 3, 2009).

The main threat to Malawi arises from weather related events, the most frequently occurring being floods. According to UNDP-Malawi, floods have impacted Malawi 157 times from 1946 to 2005. As previously mentioned, Malawi's rainy season falls between the months of November and May. During this period, the amount of precipitation can range anywhere from 725 to 2,500 mm (Malawi Meteorological Services 2009a). Floods impact Malawi in the form of flash flooding or lakes and/or rivers that swell and overflow in low-lying areas. Flooding is not limited to a particular

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geographic area in Malawi. Rather the mixture of plateaus and rolling hills throughout the country make virtually any area of the country susceptible to flooding. During the past sixty years, areas such as Nsanje, Chikwawa, and Phalombe (in the south), Salima and Nkhotakota (in the central region), and Karonga, Rumphi, and Nkhatabay (in the north) have all been heavily impacted by flooding events (J. Chiusiwa, Malawi's Coordinator for Disaster Relief and Rehabilitation: personal email, February 24, 2009).

Other weather events that are hazards to Malawi include heavy rain, winds, and hailstorms. During the rainy season, rain events may be heavy, resulting in a downpour of monsoon-like rain to many parts of Malawi. In some situations, heavy rain is accompanied by hailstorms, which pose a major threat to many farming communities in the country. Homes are also affected by hailstorm damage due to poor construction material.

The opposite side of a heavy rain event is a drought (or dry spell), another hazard, which threatens Malawi. UNDP-Malawi reported six occurrences of droughts between 1946 and 2005. While droughts have occurred less than floods, their impact has had a greater effect on the country. As a matter of fact, the Center for Research on the Epidemiology of Disasters (CRED) reports that the number of people affected by droughts since 1965 is almost 20 million,while floods have only impacted close to 2 million people over the same time period (EM-DAT 2009).

Malawi's agricultural community has also been impacted by natural events such as mealy bugs and armyworms infestations. The UNDP-Malawi's disaster profile records that there have been twelve occurrences of such infestations, which resulted in governmental aid to the affected communities due to a diminished harvest. Since Malawi is a predominately rural country (85%) (Malawi National Vulnerability Assessment Committee 2002), agricultural hazards present a major threat to people's lives and the general economy of the country.

Disease outbreaks also pose a threat to Malawi. Most outbreaks are related to rain events or the lack thereof, while others are related to social issues prevalent in the country. Outbreaks include malnutrition, measles, diarrhea, and cholera. To highlight the impact of cholera in Malawi, one of the local newspapers recently reported 67 deaths due to a cholera outbreak during the 2008-2009 rainy season (Nation Reporter, 2009, Para 1). Malaria is another disease that is prevalent in Malawi, especially during the rainy season. The largest hazard that exists primarily as a result of societal moral failures is HIV/AIDS. Every year, there are approximately 100,000 people who die from AIDS-related diseases (Office of the President and Cabinet 2007).

Political instability that may exist within the countries that border Malawi presents a human-generated hazard that poses a threat to Malawi. As was mentioned earlier, Malawi shares its borders with Tanzania, Zambia, and Mozambique. Historically, Tanzania and Zambia have been peaceful countries with occasional civil disturbances limited to within their respective borders. On the other hand, Mozambique was embroiled in a sixteen year-long civil war which ended in 1992. During this period, it was estimated that 1.2 million Mozambicans were displaced and settled in Malawi as refugees (Department of Poverty and Disaster Preparedness 2009). In addition, Malawi also received refugees from the Democratic Republic of Congo and Rwanda in 1996 (United States State Department 2009). While more and more of Africa's countries move toward democratic governance, tribalism, political instability, rogue leadership, and electoral controversies still pose a threat to Malawi's neighbors. This increases the possibility of refugees settling in Malawi as they flee conflict in their respective countries.

Transportation accidents are another area of concern in Malawi. Although available data shows that only 65 people have died between 1946 and 2005 as a result of transportation accidents, transportation events are still worth mentioning as their occurrence undermines the public's trust in a vital resource and infrastructure.

Malawi has not encountered human-generated events such as terrorism or acts of violence that seek to undermine the government or incite fear in the general public. However, during the transition

from a one party dictatorship to a multi-party political system, there was a short military skirmish between the ruling party's private army and the Malawi Defense Force in December 1993. Additionally, following the presidential elections in 2004, there were four deaths reported which were related to post-election violence. Malawi is undergoing another nationwide election in May 2009. It will be worth watching the events leading to, and following, the election to monitor if any violence develops that impacts a large population of people.

As can be seen, the information provided in this section illustrates that Malawi is mostly impacted by natural hazards although it is also apparent that human-generated events threaten the people, property, and economy in Malawi. This information also illustrates that hazards have been a consistent part of Malawi's history and there are no indications that their occurrence will diminish over time. With this in mind, it is important to consider the vulnerabilities that exist, so that while hazards may prevail, people and the government may minimize their impact on life, property, and the economy.

Vulnerability in Malawi

The concept of vulnerability is generally related to a set of conditions that affect the ability of countries, communities, and individuals to prevent, mitigate, prepare for, and respond to hazards (as cited in Ginige, Amaratunga and Haigh, 2009). Using this definition, this section identifies the vulnerabilities that exist within Malawi by analyzing three contributors to the country's vulnerability: poverty, poor healthcare, and transportation. Specifically, this section will address the factors that magnify a hazard's impact on the communities within the country.

There is a general consensus between scholars that there is a linkage between poverty and a community's vulnerability to hazards. Betty Morrow summarizes it best by stating, "the association between poverty and vulnerability is easy to make" (2000). As an extremely poor nation, Malawi's disaster experience is validated by the preceding quote. Malawi ranks 162 out of 177 countries in the Human Development Index (2007/2008 report), which is based on the following factors: living a long and healthy life, being educated, and having a decent standard of living (United Nations Development Programme 2009). Over 65% of Malawians live on less than $1 a day (Office of the President and Cabinet 2005). Poverty limits an individual's ability to respond to a disaster in two ways. First, even though they hear warnings relative to a hazard, they are unable to evacuate due to a paucity of adequate transportation resources. Second, impoverished families or individuals are unlikely to purchase any materials to aid their response or recovery in the aftermath of an event (Morrow 2000).

Many people in Malawi, approximately 86%, live in rural areas (Office of the President and Cabinet 2005). A majority of these people live in poorly constructed homes made of mud walls with thatched grass roofs. Such dwellings are extremely vulnerable to heavy rain events and flooding, especially, flash flooding. Hailstorms, likewise, have a negative impact on these types of homes. In addition, many communities have been established on the shores of rivers or lakes as these locations provide fertile soil for agriculture (Independent Online 2007). With every heavy rain event, the individuals in these communities are negatively affected by flooding. These floods not only impact property, they also adversely impact people and livestock by destroying crops and farmland.

Poverty is not only addressed in terms of individual indigence. The government as a whole does not have sufficient resources to fully develop the infrastructure to meet the emergency management needs of the general public. One may argue that most emergency management organizations in any country lack sufficient funds to operate a comprehensive program. However, in the case of the Malawi government, there are four disaster management professionals for a country with a population of close fourteen million people (J. Chiusiwa: personal email, February 20, 2009). Such a small staff is hardly sufficient to fully address the needs of the public. Furthermore, each district commissioner for Malawi's twenty-eight districts is charged with being the first responder for disaster events in their communities. These individuals are poorly funded andequipped, and they lack adequate training to carryout their duties. A general lack of adequate resources to comprehensively

sustain an emergency management program in Malawi is another contributor to vulnerability.

An inadequate healthcare system in Malawi also lends itself to a vulnerable populace. For example, in 2005, the World Health Organization (WHO) reported 14.1% of adults in Malawi (between the ages of 15-49) were living with HIV. As was noted earlier, annually, there are 100,000 people dying of AIDS-related diseases in Malawi. One of the most devastating consequences of AIDS has been its impact on families. For instance, the WHO reports that 550,000 children have been orphaned in Malawi as a direct result of the AIDS pandemic (World Health Organization 2009).

Clearly, HIV/AIDS has heavily impacted Malawi. Consequently, when impacted communities are threatened by a natural hazard, their vulnerability is magnified as they have to continue addressing the healthcare of their relatives while also attempting to respond to the emergency at hand. Additionally, HIV/AIDS has impacted families, leaving behind orphans or single parent homes in which the remaining parent is also infected by HIV. As a result, children or grandparents are left to raise their families. This situation exacerbates vulnerability because many households have lost older family members with the knowledge and survival experience gained from previous hazards that impacted their community. The familial dysfunction wrought by HIV/AIDS denies children the opportunity to hear about the lessons that were learned from previous disasters. As a result, children, who are now acting as parents, are left vulnerable to the hazards that may face a particular community. Specifically, natural hazards, such as floods and heavy storm events that occur regularly, leave these "young families" in an extremely vulnerable situation. Also, families that have a loved one infected with AIDS are mostly focused on caring for their relative. The provision of healthcare for long-term terminal illnesses is extremely expensive. Therefore, although these families may receive adequate warning about a hazard threatening their community, they may not have adequate resources to properly mitigate against, or prepare for, a hazard impacting them. In addition, the focus, both in time and financial commitment to the family member affected by AIDS, limits the family's ability to properly respond to, or recover from a hazard impacting them or their community.

Disease outbreaks, including HIV/AIDS, cholera, and other diseases will continue to occur if the public health infrastructure is unable to adequately meet the challenges posed by diseases. For example, with the current scare of the potential of a worldwide flu pandemic, will Malawi be able to adequately prepare for, respond to, and mitigate against such an occurrence?

Similarly, vulnerabilities exist in the transportation sector. There are many factors which lend themselves to transportation vulnerabilities, one of which is poor enforcement of the country's laws governing the use of roadways. Although the Malawi Police Service is continually improving its services to the public, they struggle to keep up with the exponential growth of traffic on the roadways. Therefore, motorists and pedestrians continue to violate traffic laws, including speeding, without the fear of being prosecuted by the authorities. Large trucks that are used as a mode of transportation to ferry massive numbers of people between destinations further exacerbate vulnerability in Malawi. Individuals using this mode of transportation are always extremely vulnerable to an accident as the consequences are generally severe. Other transportation vulnerabilities exist simply because of the poor state of repair of some of the country's roads. In addition, many motorists share roadways with bicycles, livestock, and pedestrians; thereby, increasing the vulnerability of every traveler involved.

History of Disasters in Malawi

Many may look at Malawi's disaster experience and see a country that has not learned from her past. However, if one were to look deeply into the history of disasters in Malawi, one would find a government that is aware of the impact that hazards have on citizens, as well as a general population that continues to accept the risk that comes with various exposure to hazards. This section lists, chronologically, the notable disasters that have occurred in Malawi. The available information is based on data provided by UNDP-Malawi (T. Msowoya: personal email on February 3, 2009) and recent newspaper accounts detailing disasters that have occurred since 2005 (the last year for which

information from UNDP was available). The information below does not account for each event that has occurred. However, this list serves to demonstrate that various disasters have impacted Malawi, including how the emergency management system has responded and attempted to mitigate against similar disasters in the future.

- **Floods** due to heavy rains in 1970 impacted various communities from central to southern Malawi. Over 9,000 people were impacted in twenty-seven villages. In addition, cassava farms were washed away on Likoma Island. In response, the Christian Services Committee, Red Cross, Save the Children Fund, and Government of Malawi provided relief, in the form of food, to affected individuals.
- **Floods** in late December 1980 and into the early parts of 1981 in Salima district (central Malawi) impacted over 1,300 people, including 112 houses, which were damaged. The Government of Malawi provided relief for affected individuals. As a mitigation measure, drainage channels were created.
- Between 1986 and 1988, there was a major influx of **refugees** who entered Malawi as a consequence of the civil war in Mozambique. Approximately 1.2 million Mozambicans were given asylum in Malawi. Consequently, the Malawi government and the United Nations High Commission for Refugees (UNHCR) signed agreements, which led to the establishment of UNHCR offices in the country (Department of Poverty and Disaster Management Affairs 2009). The increased population of Mozambicans in Malawi caused, in some cases, the spread of infectious diseases, and increased the competition for limited land amongst a rapidly growing population.
- In 1986, a **mealy bug infestation** affected close to 10,000 farmers. The insects destroyed over six thousand hectares of cassava plants. The government responded by providing food to impacted farmers.
- A **measles outbreak** occurred between 1986 and 1987 in various parts of the country, which according to UNDP-Malawi, resulted in over seven deaths that occurred. In response, families were encouraged to take children to healthcare clinics for immunization. Some of the measles outbreaks were related to the influx of Mozambican refugees arriving in Malawi.
- A **train and bus accident**, in 1989, in Blantyre district caused thirteen deaths and thirty-five injuries.
- In 1991, **flashfloods** in Phalombe district caused the death of 500 people, although some accounts record the death count as high as 1,000. Overall, 128,140 people were impacted andover eight thousand of whom were rendered homeless. Consequently, families were resettled in nearby communities, while others were provided tents for use as temporary shelter. Food items were also distributed to the communities that were impacted after their crops washed away. In addition, roads, bridges, buildings and water supply infrastructure were damaged. These flash floods were the impetus for the development of legislation to address disasters in Malawi.
- Between 1991 and 1992, a **drought** impacted most of Malawi affecting approximately 6 million people. In response, the government, in partnership with the international community, provided food to the affected population. Additionally, new wells were dug while previously existing wells were rehabilitated. The response effort also included the provision of medication for waterborne diseases, as well as, health education on communicable diseases.
- A **hailstorm** in 1996 affected several villages in southern Malawi. UNDP-Malawi reports that

353 households were affected. The response to this event included the provision of food aid and blankets.

- In 1998, there were seventy-nine injuries and eighteen deaths as a result of a **train accident**. In response, a commission of inquiry was established to investigate the cause of the accident. The government and train operator, Malawi Railways, provided financial compensation to the affected individuals and/or families.
- From the latter part of the 1990s (1996-1999) to about 2004, there were **a series of floods** that impacted over 200,000 households throughout the country. The major impacts included loss of crops and damaged or destroyed houses. There were many entities that participated in the response effort, including the Government of Malawi, the Malawi Red Cross, faith-based organizations, international humanitarian organizations, and various members of Malawi's private sector.
- In the 2001 - 2002 crop season, **erratic rain caused a food shortage** that impacted approximately 3 million people. In response, the following governments and/or Non-government Organizations (NGOs) donated food to Malawi: the United States of America, Canada, Germany, Iceland, the United Kingdom, Japan, Italy, Finland, the European Union, African Development Bank, and World Food Programme.
- In 2005, an **armyworm infestation** impacted approximately 16,000 farmers and their families. The infestation affected mainly maize and rice farms throughout Malawi. In response, the government sprayed insecticide on the affected farms.
- **Violence perpetrated against immigrants in South Africa** in May 2008 prompted the Malawian government to take emergency actions to ensure the safety of their citizens. Actions included hospital visits by Malawian embassy officials in South Africa to identify any potentially injured Malawians as well the preparation of a repatriation of more than 850 Malawians living in South Africa (News 24).
- In February 2009, 67 people had been reported dead due to a **cholera outbreak**. This outbreak impacted 2,498 people, which represents 1,476 more cases than were reported in 2008. The outbreak is a result of poor sanitary practices and an unclean water supply. Organizations currently responding to the outbreak include the United States Agency for International Development (USAID), the WHO, the United Kingdom Department for International Development (DFID), Christian Hospitals Association of Malawi (CHAM), and a network of local hospitals (Nation Reporter, 2009, Para 8).

How Malawi has Responded to Disasters

Prior to 1991, Malawi did not have an official disaster response program. Officials acknowledge that disaster management in the country wason an "ad hoc" (Ng'oma, Mwamlima 2008) basis, oftentimes, very reactive. However, previous practices soon changed following the Phalombe flash floods on March 11, 1991. As previously mentioned, these floods caused 500 to 1,000 deaths and displaced over 8,000 people. This event also impacted the country's infrastructure, including roads, bridges, buildings, and water supply. The Phalombe flash floods, therefore, precipitated the development of the Disaster Preparedness and Relief Act of 1991. This Act established a basic foundation for emergency or disaster management in the country. A brief description of the legislation is provided in the following paragraphs.

There are five elements of this act that are worth highlighting. First, the Act created the Office of Commissioner for Disaster Preparedness, Relief and Rehabilitation, whose chief executive is responsible for fulfilling emergency relief programs within the country. Second, the legislation

developed a National Disaster Preparedness and Relief Committee, consisting of high-level administrative heads of departments. Additionally, the act made a provision of three to five non-government organization participants to be appointed to serve on the National Disaster Preparedness and Relief Committee. During times of national emergencies or disasters, additional non-government organizations may be "co-opted" (Ng'oma, Mwamlima 2008) to participate in the committee.

The third prominent element of this act is that it outlined the process by which the president can declare a state of disaster. A presidential declaration is valid for three months, but may be terminated sooner based on the president's discretion. Fourth, the Act enabled the establishment of a fund for disaster preparedness. Parliament is responsible for allocating money for the fund; however, the act makes a provision for private donations and donations received from foreign governments, international agencies, and/or other foreign bodies. If the fund has a shortfall in any given year, the Ministry of Finance may allocate additional money to meet identified needs. Fifth and finally, the act enabled the establishment of a local disaster response mechanism creating a regional and community level disaster response system. By establishing a local response framework, the act empowered those who would most likely be impacted by a disaster to appropriately prepare for, and respond to, a hazard impacting their community.

Since the enactment of the Disaster Preparedness and Relief Act of 1991, Malawi has not only sought to enhance her disaster policies, she has also ensured that reducing disaster risk is a major priority within the country. The prominence of reducing the impact of disasters is evident in the country's Growth Development Strategy for 2006 – 2011 as it is listed as the second theme in Malawi's Millennium Growth Development Strategies. Malawi recognizes that one of the elements in enabling wealth creation and poverty reduction is the establishment of "adequate disaster risk management measures that go beyond emergency response to preparedness, prevention and mitigation as well as rehabilitation and reconstruction" (International Monetary Fund 2007). This is a significant policy statement because it establishes comprehensive emergency management as one of Malawi's goals. Although, "national disaster management continues to be reactive rather than proactive" (T. Msowoya: personal email, February 3, 2009), the current policy as outlined in the Millennium Growth Development Strategy symbolizes a significant step forward.

Other policy related developments include the current development of a disaster risk reduction policy as well as operational guidelines for disaster risk management in Malawi. These guidelines will outline the specific roles and responsibilities of various government departments, non-government organizations (NGOs), and United Nations agencies (J. Chiusiwa: personal email, February 20, 2009). Malawi has also developed a contingency plan for flooding, which was recently reviewed in preparation for the 2008-2009 rainy season (IRIN News 2009). These efforts are being complimented by UNDP-Malawi, who is supporting the various policy and plan development endeavors that Malawi is undertaking. For example, UNDP-Malawi and the Government of Malawi have co-signed an action plan known as the 2008-2011 Country Programme Action Plan (CPAP), in which they address the enhancement of disaster risk reduction programs and emergency management systems and practices in Malawi. The signatories to this plan have identified the necessity of ensuring that their planning efforts not only address national, but also local disaster management. UNDP has set aside a total of $2.75 million to accomplish the goals set therein (T. Msowoya: personal email, February 3, 2009).

Organization of Emergency Management

As noted earlier, the impetus for formal disaster management in Malawi was catastrophic flash floods. Legislation that resulted in response to the storm brought about the establishment of the Office of the Commissioner of Disaster Preparedness, Relief and Rehabilitation.

Currently, emergency management in Malawi is conducted within the Department of Poverty and Disaster Management Affairs (DoPDMA). There are two sections within this office: poverty affairs and disaster management affairs. The disaster management section of DoPDMA is staffed with

four professional disaster risk management officers. These individuals operate out of the national office in Lilongwe. "The Department does not have personnel at a district level and undertakes its activities through district commissioners" (J. Chiusiwa: personal email, February 20, 2009). A subunit within the disaster management section of DoPDMA is charged with overseeing refugee affairs. DoPDMA has many partners which support the delivery of various emergency management services in the country. This includes UNDP (which was mentioned earlier), the United Nations Children's Fund (UNICEF), the WHO, the World Bank, UN-Habitat, (T. Msowoya: personal email, February 3, 2009) World Vision, Action Aid, and many of the organizations that make up the Council for Nongovernmental Organizations in Malawi (CONGOMA) (Ng'oma and Mwamlima 2008).

Challenges and Opportunities

The consequences of hazards impacting Malawi bring many challenges. However, each challenge also presents opportunities for growth and further development of emergency management in the country. There are four areas, in particular, which cause the most concern for the further development of disaster management in Malawi. First, there is a dearth of human resources to perform disaster management duties at DoPDMA. The Disaster Management section within DoPDMA currently has a staff of only four professional disaster risk management officers (J. Chiusiwa: personal email, February 20, 2009) in an office that is budgeted to have thirteen positions (Suarez, Givah, Storey, and Lotsch 2008). Inadequate staffing is also pervasive in other agencies that provide vital services for emergency management. For example, Malawi's Meteorological Department has an average vacancy rate of 30% (Suarez, Givah, Storey, and Lotsch 2008). Some of the services provided by the Meteorological Department include general weather forecasting, flood forecasting, tropical cyclone warning, provision of weather information for road and railway usage, and weather information for prediction of disease outbreaks (Malawi Meteorological Services 2009b). The provision of these and many other services is severely hindered when there is insufficient staffing.

The lack of adequately trained personnel to carry out disaster management operations is another challenge for Malawi. One of the training issues identified by James Chiusiwa, Malawi's Coordinator for Disaster Relief and Rehabilitation, is the paucity of trained professionals - especially at the district and community levels.

Another human resource-related issue, which exacerbates many of the challenges in Malawi, is the HIV/AIDS pandemic. HIV/AIDS causes two main challenges: morbidity and mortality (Suarez, Givah, Storey, and Lotsch 2008). These challenges have a substantial impact on organizational capacity as demonstrated through attrition, vacancies, absenteeism, and workload. Collectively, these factors "have a negative impact in three areas: productivity, finances, and service provision" (Suarez, Givah, Storey, and Lotsch 2008).

The second challenge area that exists is a lack of resources such as finances and equipment. Disaster management within Malawi is inadequately funded. To make matters worse, when a disaster occurs, the government is slow to release the necessary funds to support response and recovery efforts (J. Chiusiwa: personal email February 20, 2009). Another example of limited resources can be seen in other vital providers of emergency management services such as the Meteorological Department. At the Meteorological Department, several factors, including "staff attrition due to deaths, early retirement, prolonged illnesses, together with other causes like vandalism and budgetary limitations, resulted in the closure of 700 rainfall observation stations" between 1988 and 2006 (Suarez, Givah, Storey, and Lotsch 2008). This represents an 84% decline in rain stations over a period of eighteen years. The lack of vital communications equipment and the existence of a poor road infrastructure also limit Malawi's ability to provide comprehensive emergency services (Mafuleka 2006).

Hazards make up the third challenge area for Malawi. In particular, flooding presents a continual challenge for the country. Historically, flooding has occurred regularly and consistently throughout the years. Even more so, current trends do not indicate that this hazard will diminish over

time. Flooding may not be the only natural hazard that threatens Malawi in the future. Changes in the global climate may also exacerbate the impact of other natural hazards that threaten the country. As Malawi develops, the potential for an increase in human-generated hazards may also grow as development continues to bring greater concentrations of people into relatively smaller spaces, as is the case with urbanization. Construction and occupation of high-rise buildings may also constitute a hazard in the country. Although terrorism was not discussed in this paper and has not generally been a concern for Malawi, one cannot rule out the potential of terrorism spreading to Malawi. Related to, and more likely to occur than terrorist events, are refugee crises. Another challenge relative to hazards is the healthcare system. As evidenced by the HIV/AIDS pandemic and various other disease outbreaks such as the recent cholera cases, a poor healthcare infrastructure will continue to undermine Malawi's disaster management capabilities. Having the ability to meet the physical needs of citizens is an important part of a sustainable emergency management program.

Culture and organization is the fourth, and final, area that may cause future challenges for Malawi. In some parts of Malawi, disasters occur because residents fail to heed evacuation notices as they refuse to detach themselves from their communities. The UN Office for the Coordination of Humanitarian Affairs Integrated Regional Information Network for Central and Eastern Africa (IRIN) captures these sentiments well in the following comment from a villager, "we cannot leave the land that was given to us by our ancestors. We buried them here, we will also be buried here, and here is where we cultivate crops" (IRIN 2008). Since there are disparate organizations that respond to emergency events, there is a need to organize them under a coherent structure that will ensure the maximization of preparation, response, recovery, and mitigation efforts in Malawi. The Malawi government is fully aware of this need as identified by a senior official with DoPDMA at a recent conference in Bangkok, Thailand when she commented, "some organizations do not inform DoPDMA or district assemblies about their DRM programs", which "results in poor coordination – duplication and wastage of resources" (Ng'oma and Mwamlima 2008).

Although it may seem that Malawi faces overwhelming challenges in emergency management, opportunities for improvement also exist. Through the development of disaster risk management policies, the Malawi government is moving away from a reactive posture to undertake a more proactive stance in addressing disasters. This is evidenced by the way in which Malawi has embraced a comprehensive approach to emergency management to not only address response, but also, recovery, mitigation, and preparedness. The government must also continue to enhance its training and education programs. These programs must not only include professional emergency managers, but must also work to educate the public, especially those that live in hazard prone areas. Since there is a state-owned radio and television broadcasting system in Malawi, the government can use this tool to continuously educate the public on the dangers of dwelling in locations that have a documented history of being prone to floods or other natural disasters.

Malawi benefits from many agencies, local and international, that provide humanitarian services within the country. These agencies have staff that is experienced, knowledgeable, and skilled in disaster services. Malawi can take advantage of the abundance of human and physical resources by developing a national incident management system which would invite all the willing agencies involved in providing emergency management and humanitarian services within the country to come together under a unified structure to provide a comprehensive and well-coordinated system. Such a system would identify the various emergency management functions in the country, as well as, assign agencies with roles and responsibilities in specific functional areas based on each agency's subject matter expertise. **Reorganizing in this manner may provide the following three benefits: first, it may enable a coordinated division of labor within the country by identifying the strengths and weaknesses of each agency and assigning roles and responsibilities accordingly; second, a reorganization would make it possible to establish standards and expectations for emergency preparation, response, recovery and mitigation for all of the agencies involved; third and finally,**

reorganizing in this manner would enable the disaster management community, as a whole, to more quickly identify the gaps that exist, including equipment, training, and other deficiencies.

Malawi would also benefit from strengthening emergency management at the local level. It has been identified in this paper that emergency responders at the district commission level are under funded and lack adequate training. Since disasters primarily impact a local community and the initial response is local, it is only fitting to strengthen the ability of the district commissioners to prepare for, respond to, recover from, and mitigate against disasters. While it may be expensive for Malawi to embark on such an endeavor, identifying the most disaster prone communities and strengthening their systems first, would be a good start in ameliorating the problems that exist.

Malawi can also benefit from partnering with governments around the world that experience similar hazards to share knowledge and experience gained. Such relationships will enable the communication of best practices, which support the mutual furtherance of emergency management programs. These partnerships would be different from those that currently exist with international organizations and NGOs in that they would create a government-to-government relationship, bringing together the experiences of lead agencies involved in emergency management in their respective countries.

Conclusion

This paper has demonstrated that, while there are many challenges to disaster management in Malawi, progress is being made. There are four main elements that have been apparent throughout this paper. First, hazards will continue to regularly impact Malawi. Second, the communities within Malawi are extremely vulnerable to all hazards, especially natural hazards. Third, there is a dichotomy between the public officials' proactive desire to continue to enhance the emergency management system in the country, and the citizens' unwillingness, in some areas, to appropriately prepare for hazards. Fourth, and finally, it is apparent that Malawi has many opportunities that exist through partnerships with international organizations serving within the country. Therefore, the challenge that exists in Malawi is primarily to reduce the cycle of predictable hazard impacts to the country's vulnerable population. Malawi must also fully embrace the relationships that exist with many humanitarian organizations operating within the country so that a comprehensive emergency management program can be established. It is the hope that this paper will continue the discussions that have been occurring in Malawi in order to develop new ideas and programs that will minimize the impact of disasters to the people, property, and economy of Malawi.

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