

Zimbabwe's Emergency Management System: A Promising Development

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Introduction

Zimbabwe's encounter with droughts, in particular, combined with economic and political challenges, has denigrated the country's former status as the "breadbasket of Southern Africa" (Hunter-Gault 2006; Maphosa 1994; Swarns 2002). Zimbabwe is particularly prone to a number of natural and man-made hazards such as droughts, floods, veld fires, storms (PreventionWeb 2012), and HIV/AIDS (United Nations Development Programme 2010) among other epidemics. Between 1980 and 2010, PreventionWeb (2012) documented 35 natural disaster events, which resulted in 6,448 deaths, averaging 208 deaths from disasters annually. Of the 35 natural disasters, 6 were drought occurrences, 7 were floods, 2 were storms, and 20 were epidemic occurrences. Chikoto (2004)¹ also counted the number of public transportation disasters that plagued Zimbabwe between 1982 and 2003, which claimed over 700 lives and injured over 400 people. To mitigate and prepare for these and other hazards facing Zimbabwe, the Government of Zimbabwe (GoZ) created the Department of Civil Protection and charged it with the onus of coordinating and managing disasters and reducing hazards.

This chapter traces the history of Zimbabwe's emergency management system, with a focus on the factors contributing to the nation's vulnerability to disasters and hazards. In addition to tracing the impact of past disasters, the chapter also discusses some of the opportunities and challenges confronting the country's emergency management system. The chapter concludes with recommendations for improving this system.

Country Profile

A former British colony, Zimbabwe² got its independence from the Southern Rhodesia government in 1980 following the end of two bloody Wars of Liberation - the First and Second Chimurenga - that began in the early 1970s. The guerrilla-led wars culminated into the 1979 Lancaster House peace agreement being brokered between the Southern Rhodesian government, the British government and the Zimbabwe African National Union - the leaders of the liberation armed movements of Patriotic Front (ZANU PF) and the Zimbabwe African Peoples Union (ZAPU) (Sibanda 1990). To bring about a cease-fire, compromise had to be reached - one of which resulted in the delay of land redistribution in the country. As a result, land has been the most critical political issue in Zimbabwe for centuries³ (Gasana et al. 2011).

Zimbabwe is a landlocked country occupying 390,757km², sharing borders with South Africa, Mozambique, Botswana, and Zambia. With a 2012 estimated population of 12.6 million people⁴, Zimbabwe has a high adult literacy rate, with 91% of the population

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being able to read and write English. The country’s current unemployment rate among youth between the ages of 15 and 24 is 25%⁵, which is partly due to the economic challenges the country has faced in the recent years. For example, in 2007, the country’s Central Statistical Office reported a 6,592% inflation rate - although this figure is believed to have actually been much higher (USAID 2007). However, the 2009/2010 time period witnessed substantial economic growth as well as recovery of agricultural production (Gasana et al. 2011).

Historically, larger populations (approximately 60%) have resided in the rural areas and are mostly subsistent farmers. In 2010⁶, approximately 38% of the population in Zimbabwe resided in urban areas⁷. All other towns are an assortment of rural and peri-urban settings and are not as developed in terms of roadway and telecommunication systems. According to Gumbo (2006), about 80% of Zimbabwe’s population is dependent on agriculture. As Gasana et al. (2011) put it, “agriculture is at the heart of the Zimbabwean economy, contributing approximately 17%” of the country’s Gross Domestic Product (p. 9). Consequently, cyclones, floods, and droughts pose a serious threat to the food security of the country.

Zimbabwe can also be described in terms of provinces, which are politically administered by appointed Governors and publicly-appointed Resident Ministers whose primary responsibility is to develop the province and serve the people within those provinces. As shown in Figure 1 below, there are 8 provinces⁸ in Zimbabwe.



Fig.1 Administrative Map of Zimbabwe (Source: UN Cartographic Section).

Hazards Peculiar to Zimbabwe

As shown in Table 1 below, the main hazards peculiar to Zimbabwe include, but are not limited to, flooding, drought, famine and food crises and diseases such as HIV/AIDS and cholera. Flooding and droughts are a common problem in Zimbabwe where they threaten the well-being and food security of Zimbabweans, especially in rural areas (Gwimbi 2009; Mazzeo 2011). Flooding can be caused by heavy precipitation during the rainy season (November to April⁹) or by tropical cyclones that emanate from the Indian Ocean (Madamombe 2004); however, flooding in Zimbabwe is not as extreme as it is in South Asia and Latin America (Siamachira 2011). Nonetheless, flooding still leads to losses of life, destroys livestock, crops, and properties, and engenders outbreaks of diseases such as cholera and malaria in Zimbabwe (Madamombe 2004).

Given that Zimbabwe is largely an agrarian economy; droughts have also had devastating impacts on the nation's food security. According to Chigodora (1997), the drought occurrences of 1946-47, 1960, 1972-73 and the early 1980s, led to unintended consequences such as the sale of cattle¹⁰ which, consequently, reduced production of maize – a staple food in Zimbabwe (Mazzeo 2011) – and manure to nourish the soil (in rural communities, cattle provide draft power to cultivate maize). The droughts in Zimbabwe are caused by El Nino-Southern Oscillation (Mazzeo 2011). Strategies to combat droughts include water conservation techniques (e.g., dams and reservoirs) and agro-forestry strategies (e.g., tree planting) (Maphosa 1994).

Table 1. Peculiar Hazards in Zimbabwe, 1982 – 2010

Type of Disaster	Year of Occurrence	Number of People Affected
Drought	1982	700,000
Drought	1991/2	5,000,000
Epidemic (<i>Cholera</i>)	1996	500,000
Drought	1998	55,000
Flood	2000	266,000
Drought	2001	6,000,000
Flood	2001	30,000
Drought	2007	2,100,000
Epidemic (<i>Cholera</i>)	2008	98,349
Drought	2010	1,680,000

Source: PreventionWeb, 2012

Famine, which can lead to food crises, food insecurity, death, and increase the spread of diseases, is another common occurrence in Zimbabwe (IFPRI 2002). Famine is caused by many factors including sharp increases in staple food prices, disruption on commercial agricultural production, bad producer pricing policies, poor economic conditions and a lack of irrigation infrastructure (Maphosa 1994; Smith 2003). Zimbabwe experienced food crises in 1903, 1916, 1922, 1933, and 1942 (Chigodora 1997). Food crises are engendered by poor economic conditions, drought, and HIV/AIDS (Kinsey et al. 1998 cited in Mazzeo 2011). To address food insecurity in Zimbabwe, Chigodora (1997) recommends that the GoZ put in place poverty alleviation and drought preparedness programs. While the GoZ has implemented programs such as Food for Work and Public Works, these should be expanded (IFPRI 2002).

Zimbabwe is also highly prone to epidemics such as HIV/AIDS and cholera. One in every five Zimbabweans lives with HIV/AIDS (USAID 2011) and about 3,000 Zimbabweans die from it weekly (Meldrum et al. 2008 cited in Chadambuka et al. 2012). Perhaps this is why Mazzeo (2011, p. 407) calls HIV/AIDS Zimbabwe's "most serious public health problem." Zimbabwe is also prone to cholera outbreaks (Chadambuka et al. 2012), which can be traced to old water pipes and decaying water and sewage systems (Smith 2009). The break down in the water supply system is engendered by poor economic conditions in the country, which left the government without sufficient fiscal strength to invest in maintenance of the water supply system.

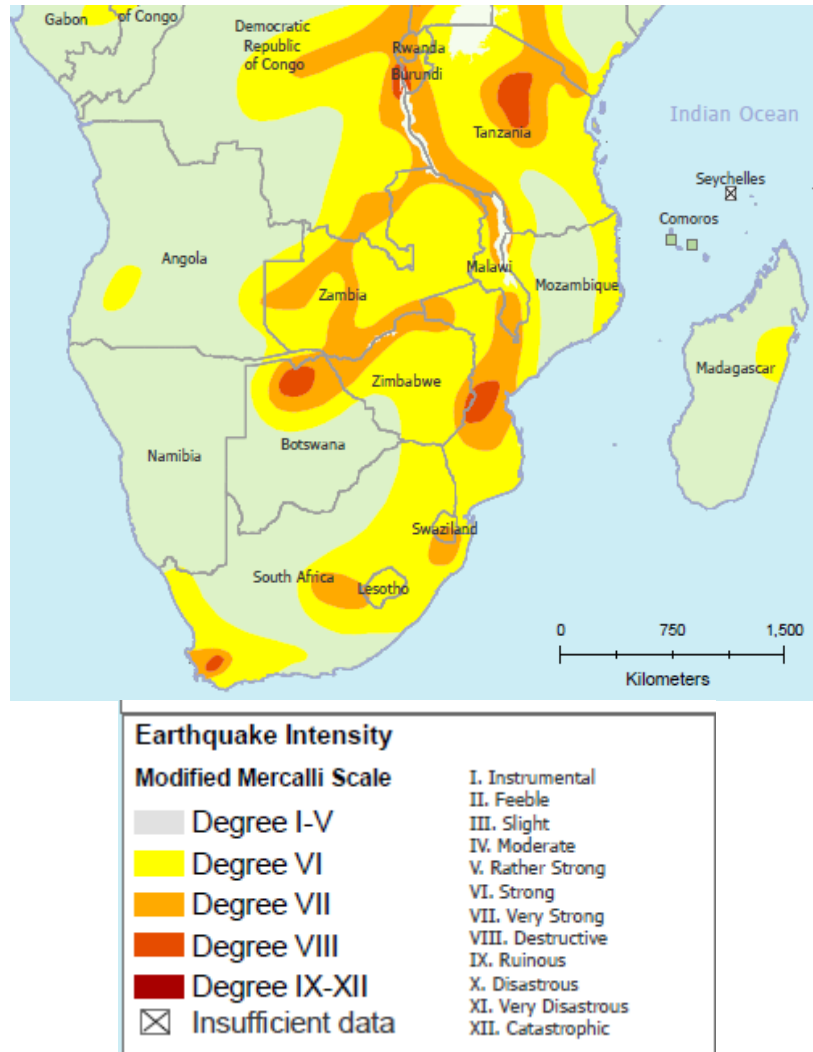


Fig. 2 Earthquake Intensity Zones in Southern Africa (*Source:* Modified from the United Nations Office for the Coordination of Humanitarian Affairs (OCHA), 2007).

A less documented hazard in Zimbabwe is earthquakes. Clark (2000) noted that the seismic activity that occurred in February 1959 in the Kariba region prompted the installation of regional seismographic stations. According to the author, by 1970, 16 stations were operated by the Zimbabwe Meteorological Services from the Goetz

Observatory in Bulawayo. Although there is almost no earthquake activity in Harare and Bulawayo – the two largest cities in Zimbabwe, “almost all earthquakes... occur in the Hwange-Zambezi-Kariba or Eastern Highlands areas (Clark 2000). In fact, Clark (2000) noted that these earthquakes are usually quite small – out of approximately “3,400 earthquakes recorded in a 32 year period, only 30 exceeded a magnitude of 5 on the Richter scale,” with the largest earthquake occurring beneath Lake Kariba in 1963, measuring 5.8 on the Richter scale (Clark 2000, p. 51). Figure 2 above shows the earthquake intensity zones in Southern Africa.

Most recently, in 2009, the U.S. Geological Survey (USGS) website reported a 7.5 magnitude earthquake in northern Mozambique. However, the quake was felt as far as Zimbabwe's capital, Harare, with the greatest quake being felt in the city of Mutare, which is located 270 km (167.8 miles) from Mozambique's western border (Chinaka 2009). And in 2011, another 4.5 earthquake hit Mozambique and was felt more severely in Chipinge, a rural community in the eastern part of Zimbabwe, also closer to the Mozambiquean border (Sapa 2011). It is reported that this area “has seen more than a dozen quakes in the last 20 years, including two very large ones in 2006 that were felt as far as Harare” (Sapa 2011). There were no deaths or injuries recorded. “The quake originated some 25 km underground in the same section of the southern end of the East African Rift Valley that saw the two largest earthquakes in decades in Southern Africa just five years ago” (Sapa 2011). In 2010, in response to this earthquake, with the assistance of United Nations Development Programme (UNDP), the Department of Civil Protection conducted an earthquake risk assessment in the Chipinge district (UNDP 2010).

Also quite prevalent in Zimbabwe are the numerous public transportation disasters. Between 1982 and 2003, for example, 19 bus accidents were declared national disasters by the President of Zimbabwe. As a result, a total of 735 people were killed, with about 443 people injured (Chikoto 2004) (see details in the section on Past Disasters).

Vulnerability

Rural communities in Zimbabwe are heavily dependent on natural resources including wild food (Chigodora 1997; Gwimbi 2009). In fact, eating wild food has been established as a way to alleviate impacts of famine on families (Chigodora 1997) to the extent that early European explorers noted that “starvation was impossible in the Zambezi Valley” (Scudder 1971, cited in Chigodora 1997). The dependence on natural resources makes Zimbabweans vulnerable to climate change (Chitiga and Chigora 2010) in the face of deteriorating environmental conditions (Gwimbi 2009) that threaten the depletion of these natural resources.

Vulnerability to floods is due to many factors including, but not limited to, the location of homes in floodplains (Gwimbi 2009). For instance, there are many communities living in the lower Zambezi valley such as in the Muzarabani¹¹ and Guruve (Madamombe 2004). The lower Zambezi is highly vulnerable to flooding and, in fact, the word Muzarabani means “flood plain” in the Shona¹² language (Madamombe 2004). Gwimbi (2009) offers some recommendations to make Zimbabwean communities more resilient to flooding. First, the provision of early warning information is crucial to reduce flood damage. Second, communities need to develop a disaster plan that would serve as a

guide to flood risk reduction. Third, conservation strategies, such as afforestation programs, can help to reduce flood risk.

Zimbabweans are susceptible to diseases, including HIV/AIDS, because of under-nutrition (IFPRI 2002) and a lack of investment in prevention programs and the purchase of drugs (Coltart 2008). In addition, the country is also vulnerable to climate change as a result of poor environmental management practices, variability in rainfall patterns and extreme events (Chitiga and Chigora 2010). With regard to poor environmental management practices, the impact of climate change has been exacerbated through activities such as burning bushes before planting crops, which releases carbon dioxide into the atmosphere and lead to increase an in greenhouse gas (Chitiga and Chigora 2010). And finally, the vulnerability to large public transportation accidents is due to many factors including, driving under the influence of alcohol and or drugs, unlicensed drivers¹³ poor roads, excessive speeding, and at times, weakened regulations and enforcement, amongst others (Pearce and Maunder 2000; Manzvanzvike 2009; Shaw 2011).

Past Disasters

As discussed above, Zimbabwe has experienced myriad disasters since its independence in 1980. Here is a list of some past disasters.

- In 1982, the Guruve bus accident overturned at a bridge, killing 60 people. In the same year, the Chipuriro bus crash also killed 60 people.
- In 1989, the Chivake bus accident claimed 79 lives, injuring 21 people. As a result of reduced visibility due to fog, the bus plunged 40 meters onto a dry riverbed. In the same year, a Masvingo-bound bus killed 19 people, injuring 35.
- In 1990, the Mazowe Bus Inferno killed 34 people. One year later, the 1991 Nyanga Bus accident claimed 89 lives and injured 9 people.
- The 1991/1992 drought is one the worst droughts to hit Zimbabwe (Maphosa 1994). This drought led to the intake by the Grain Marketing Board of only 13, 000 tons of maize that year, enough to last Zimbabweans for two days (Maphosa 1994; Gumbo 2006) (see Table 2 below). In addition, more than a million cattle¹⁴ were killed as a result of starvation induced by the drought (Maphosa 1994). Overall, PreventionWeb (2012) notes that the drought affected approximately 5 million people (see Table 1). In addition, the droughts also affected the country's supply of hydro-electric energy due to water shortages and reduced flows (Gumbo 2006). For example, Lake Kariba dam's (which supplied approximately 80% of the country's hydro-electric energy) water capacity dropped to 40% and "any further drop would have [made] generating electricity impossible" (Gumbo 2006, p. 13).
- In 1992, another public transportation accident resulted in the Pokotere bus being swept by a flooded river, killing approximately 30 people, and injuring 3.
- In 1995, the Chimanimani bus accident killed 37 people and injured 52 as a result of collision with another vehicle.
- In 1995, a boat capsized in Lake Chivero killing 22 children and injuring 18.
- In a collision between 2 lorries and a bus, the Chipinge accident claimed 26 lives and injured 89 people in 1996.

- In 1997, due to brake failure, a B & C bus plunged 30 meters down a slope killing 41 people and injuring 64. In the same year, the Mbizi bus crash killed 16 people and injured 40 people.
- In 2000, Tropical Cyclone Eline caused flooding in the Zambezi Basin, killing 700 people, rendering over 500,000 homeless and destroying infrastructure worth \$1 billion (Gwimbi 2009).
- Three bus accidents occurred in 2002, the Mhunga, Masvingo, and Kwekwe bus disasters, killing 37, 40, and 16 people respectively.
- And in 2003, the Dete Train collided with a goods train carrying flammable liquids, killing 50 people.
- In March, March 2003, Tropical Cyclone Japhet caused flooding in Guruve and Muzarabani districts in the Zambezi basin (Madamombe 2004). The Cyclone was characterized by strong 110 km per hour winds, with gusts reaching up to 140 km per hour¹⁵.
- As a result of the drought, in 2008, the estimated national maize production in Zimbabwe dropped from the domestic maize requirement of 1.1 million tons to only 475,000 tons in 2008 due to (World Bank 2008).
- A cholera outbreak, which occurred between August 2008 and July 2009, infected 98,592 people and resulted in 4,288 deaths (Smith 2009). This is considered “the worst cholera outbreak in Africa in 15 years.”¹⁶

Table 2. Domestic maize intake by the grain marketing board (in tons)

Year	Large-scale commercial producers	Smallholder sector	Total
1983/84	464,486	152,414	616,900
1984/85	464,486	390,001	854,487
1985/86	1008,971	819,140	1828,111
1986/87	911,945	682,429	1594,374
1987/88	946,735	155,802	1102,537
1988/89	440,733	755,802	1196,535
1989/90	510,686	654,841	1165,527
1990/91	357,414	423,594	781,008
1991/92	233,731	371,760	605,491
1992/93	11,952	718	12,670

Source: Grain Marketing Board, Annual Reports, 1983 - 1993.

Zimbabwe’s Emergency Management System: Historical and Current Developments

Following independence, the GoZ put in place supporting legislation to establish a sophisticated national emergency management system. During an emergency, this system would activate all available national resources, such as the setting up a National Civil Protection Fund. If the resources of the GoZ are overwhelmed, a presidential declaration of national disaster would be made and regional and international resources would be sought. Figure 3 below traces the structure of Zimbabwe’s emergency management system.

The first piece of legislation passed was the 1982 Civil Defense Act, wherein “civil protection” was defined as “any service provided or measure taken for the purpose of preparing for, guarding against and dealing with any actual or potential disaster” (The Civil Protection Act 1989; p. 19). The 1982 Civil Defense Act was repealed by the Zimbabwe Civil Protection Act of 1989 (The Civil Protection Act 1989). While the definition of “civil protection” remained intact, the 2001 amended Act extends the definition of what “disaster” means for the country. In recognition of the disasters that continue to or are likely to plague the country, the Civil Protection Act of 2001 defines “disaster” as consisting of “any (a) natural disaster, major accident or other event howsoever caused; or (b) destruction, pollution or scarcity of essential supplies; or (c) disruption of essential services; or (d) influx of refugees; or (e) plague or epidemic or disease; that threatens the life or well-being of the community” (The Civil Protection Act 2001; Part I, Section 2). This legislation resulted in the creation of the Department of Civil Protection.

The Role of Department of Civil Protection: Historically, the Department of Civil Protection has been the main body tasked with the responsibility of setting up emergency management plans. The Department is currently housed within the Ministry of Local Government, Rural and Urban Development¹⁷ (formerly the Ministry of Local Government, Public Works, and National Housing), as the implementing body of the national government-initiated disaster preparedness and mitigation programs (Chikoto 2004; United Nations International Strategy for Disaster Reduction (UNISDR) 2005). Department of Civil Protection has always and continues to be responsible for coordinating all national response efforts (UNISDR 2005), and based on the Civil Protection Act (2001, Chapter 10.06), its current primary functions include preparing for, preventing where possible, and mitigating the effects of, disasters once they occur¹⁸ (see The Civil Protection Act 2001).

Overall, the Department of Civil Protection’s responsibilities encompass resource mobilization in preparation for managing and responding to major emergencies and disasters. In addition to disseminating disaster management-related information, the department is also responsible for coordinating the training of civil protection officers, at all three levels of government – the national, provincial, and district. Furthermore, the Department of Civil Protection helps to coordinate disaster response in consultation and cooperation with various support networks¹⁹, including the Zimbabwe Defense and Police Forces (The Civil Protection Act 2001; Part VI, Section 18(3)).

Decentralized Planning for Emergencies: Consistent with civil protection legislative arrangements, Zimbabwe’s emergency management system is spearheaded by civil protection bodies at the national, provincial, and district levels – all in an effort to facilitate coordination and ensure an effective response. As a result, various levels, namely, the national, provincial, district, local authority and private and nonprofit sector level are required to plan for disasters by producing operational plans for emergency preparedness and response – plans that would be activated in the event of a disaster (The Civil Protection Act 1989; 2001; UNISDR 2005). To assist in the planning process, the Department of Civil Protection appoints its own civil protection officers at both the provincial and district levels to mediate between these levels of government and the national government (InterWorks 1998). To enhance coordinated efforts, localized plans – which would specify the mechanisms and procedures for issuing alert, evacuation

procedures, among other factors – are expected to merge into the national plan (UNISDR 2005).

The National Civil Protection Committee, as required by law, is comprised of actors that would be involved in an emergency response in some capacity. Although chaired by the Director of Civil Protection, committee members are responsible for advising and assisting “the Director in the planning and implementation of measures for the establishment, maintenance, and effective operation of civil protection (The Civil Protection Act 2001, Part III, Section 4). The engagement of these actors is also strategic in nature in that it makes it easier to request their support in disaster and emergency situations. For instance, whenever activated, the emergency response might comprise of the Zimbabwe Armed Forces, the Zimbabwean Air Force (helicopter support), the Zimbabwe Republic Police (ZRP) and its sub-aqua unit, and the local Fire Brigades, depending on the nature and scope of the disaster. Additional support has also come from other sources, including local communities, local nonprofits, with an increasing role of international non-governmental organizations (INGOs and United Nations-funded bodies, as well as support from regional networks such as the Southern Africa Development Community (SADC) and other international bodies, such as local UN bodies – especially at the request of the President, with respect to regional and international support. Such support networks seem more actively involved in flood and drought-related disasters.

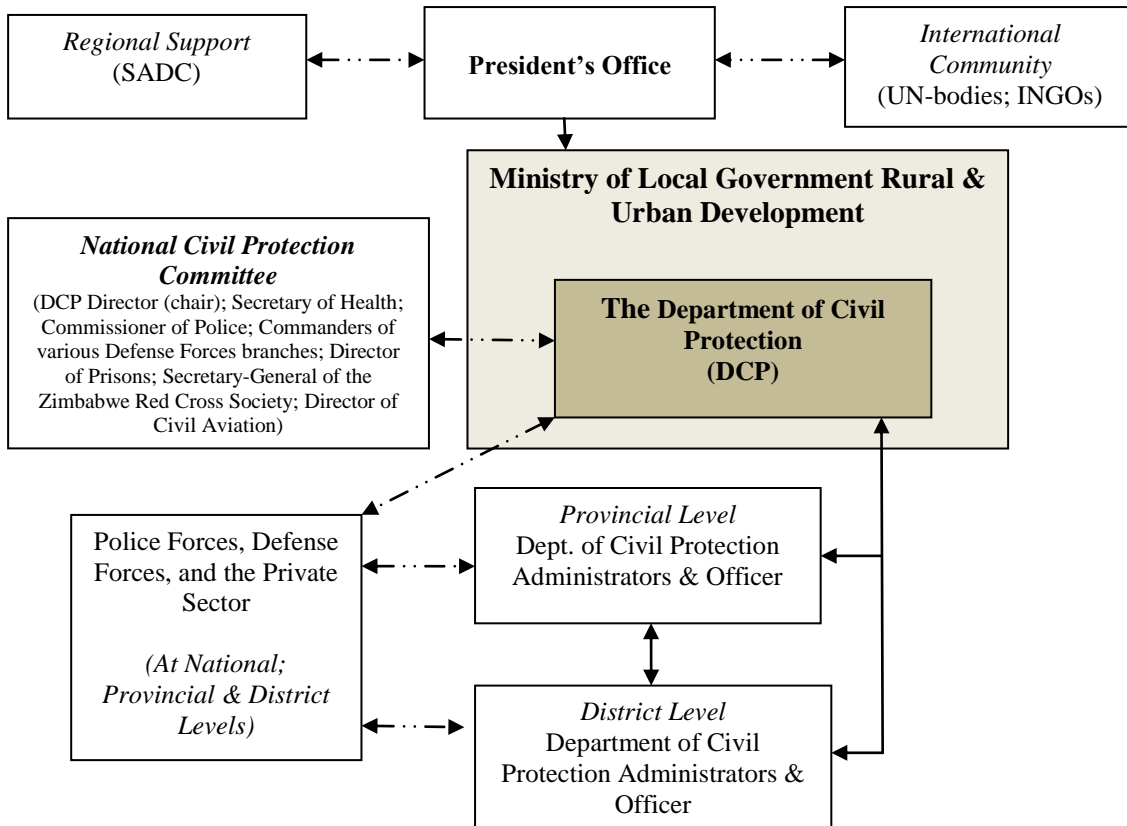


Fig. 3 The Structure of Zimbabwe’s Emergency Management System

The National Civil Protection Fund: The 1982 Guruve bus disaster that claimed 60 lives provided the impetus to launch the National Civil Protection Fund under the Civil Defense Act of 1982²⁰ as well as its successors, the Civil Protection Act of 1989 & 2001 (Part IX). The goal of the disaster fund included the development and promotion of civil protection, financial support for research and training deemed necessary to the promotion of civil protection, the provision of medical coverage for the injured for up to three months, and assistance with funeral expenses²¹. Though setting up this fund may have been an effective approach, it is alleged that corrupt officials misappropriated some of the money raised for the victims. To supplement this National Civil Protection Fund²², ad hoc disaster funds were usually lobbied by the central government following a presidential disaster declaration. For example, a Nyanga Bus Disaster Fund was set up to help victims and their families following the 1991 bus disaster discussed above²³. One notable example is that James Chitega, after losing 13 members of his family in the 1997 Mbizi bus accident, also founded the National Disaster Trust of Zimbabwe to supplement the inadequate Government disaster fund.

2003: The Path to Reinforcing Zimbabwe's Emergency Management System

By 2003, plans had been set in motion to change the name of the Department of Civil Protection to the Department of Emergency Preparedness and Disaster Management under the newly proposed Emergency Preparedness and Disaster Management Act. To be effective, the new Department of Emergency Preparedness and Disaster Management needed to be an autonomous body, albeit resuming its residency with the Ministry of Local Government, Rural and Urban Development²⁴ (Madamombe 2004). The hope was that the new Emergency Preparedness and Disaster Management Act would result in the creation of a national training center for fire, research and rescue. "In 2007, the Government published a Disaster Risk Management Policy Draft, which still awaits further consultation with stakeholders" (Siamachira 2011). It is hoped that such measures will ensure standardized service provision within the country.

In addition, the new legislation will require the setting up of emergency planning and disaster management committees. These will include all key stakeholders, research institutions, private sectors and non-governmental organizations²⁵. The function of these committees is to ensure coordinated efforts by all stakeholders in times of disaster. The objective of the planning and disaster committees is to improve the country's preparedness and capacity to cope with disasters and threats to humanity.

Challenges and Opportunities Facing Zimbabwe's Emergency Management System

Zimbabwe is no doubt a country with huge potential (Coltart 2008). Nonetheless, there are a number of challenges that might prevent Zimbabwe from realizing its full potential. First, the HIV/AIDS epidemic makes it difficult to increase agricultural productivity due to deaths and illnesses of able-bodied men and women (Mazzeo 2011). This challenge is particularly bigger for rural communities in Zimbabwe who depend on labor for agricultural production (Mazzeo 2011). Low agricultural productivity can lead to food crises and consequently make the country more vulnerable to food insecurity.

Second, high inflation, engendered by political instability and economic collapse, remains a problem in Zimbabwe (Chadambuka et al. 2012). So is lack of education - only 20% of children in Zimbabwe attend school (Capp 2009, as cited in Chadambuka et al.

2012) – combined with the current brain drain, will have significant negative consequences on the country’s current and future economic development. An economically stable nation has a higher propensity to invest in emergency management.

Third, low budgetary allocation for disaster management and flood management is another problem facing emergency management in Zimbabwe (Madamombe 2004). Although it is encouraging that legal provisions are in place for setting up a National Civil Protection Fund to finance the development and promotion of civil protection measures; the effectiveness of such a provision is dependent on the GoZ’s fiscal budget. As a result, a system on paper, absent of corresponding financial commitment, is likely to be doomed. The years between 2002 and 2010 saw the collapse of the Zimbabwean dollar owing to hyperinflation and decline in the country’s economy. President Mugabe’s “land policies, endemic corruption, Zimbabwe’s involvement in the Democratic Republic of Congo (DRC) war, absence of the rule of law, and other ill-conceived economic policies,” have been attributed to this economic decline (Hondora 2009). However, in agreement with Hondora (2009), the impact and the not so-often-talked-about international sanction placed on Zimbabwe by the international community since 2000, also need to be added to this list. As long as economic sanctions on Zimbabwe remain, they will continue to thwart the growth in the country’s economy from reaching its potential and indirectly hindering the establishment of an effective emergency management system.

Fourth, a lack of staff, weak healthcare infrastructure and loss of medical expertise to neighboring countries that have better pay for healthcare professionals and a lack of funding are challenges confronting the GoZ in its fight against HIV/AIDS (Moss and Patrick 2006). Finally, politicization and corruption of the security sector (Moss and Patrick 2006) is another challenge facing Zimbabwe’s emergency management system. Zimbabwe’s defense and police forces are critical assets to its emergency management system, as these units are often activated in the event of a disaster and hence become the face of the emergency management system. A corrupt force may threaten the credibility of the country’s emergency management system, especially when cooperation, participation and coordination are essentially in a decentralized system.

In spite of these challenges, Zimbabwe also has five opportunities to bolster its emergency management system. First, the country’s emergency management system appears to be well thought-out, organized, and impressive - especially given how responsibility for disaster mitigation and preparedness are cascaded from the national to the local levels of government, as well as to the private and nonprofit sectors. Zimbabwe’s emergency management system is therefore designed to bolster localized disaster planning, as well as response, with support coming from provincial and national levels of government (Madamombe 2004; Gumbo 2006). As observed by Tsiko (2011), “the 2000 and 2007 floods and cyclones tested the Muzarabani community and the Government on how to respond efficiently to emergency situations;” the floods in effect “exposed the (inherent) institutional weaknesses and limited capacity both at local community and national levels.” Therefore, reinforcing the capabilities of local communities to undertake most of their own search and rescue activities (Madamombe 2004), albeit, with the support of provincial and national civil protection bodies, is the appropriate strategy.

Second, investing in volunteer training and support may also help improve the transmission of early warnings and evacuation efforts at the local levels. As noted in the 1989 and 2001 Civil Protection Acts, the emergency management system is also designed to cultivate volunteer engagement in emergency preparedness and response efforts. Such an approach will also help facilitate the provision of relevant disaster-related information and training within local communities. This may help to increase risk awareness among local communities.

As such, the third opportunity lies in strengthening the country's risk assessment measures and early warning systems. In the past, Zimbabwe has performed regular vulnerability and capacity assessments, including assessments to identify vulnerable groups with respect to access to food and vulnerability to diseases such as HIV/AIDS in the urban areas (UNISDR 2005). More recently, an earthquake risk assessment was conducted in the Chipinge area (UNDP 2010). Formalizing and routinizing such efforts would help bolster the emergency management system. In addition, with respect to the country's history with droughts and floods, the Meteorological Services Department began monitoring the weather patterns in an effort to improve its ability to provide regular updates and warnings (UNISDR 2005). In addition, the localized response approach that the Zimbabwe emergency management system is emphasizing, would also help militate against the fact that, most flood-prone areas are largely located in the rural parts of the country where there is limited television and radio coverage to transmit any early evacuation warnings in a timely fashion.

Fourth, the GoZ needs to capitalize on the international and non-governmental support that is slowly beginning to flow back into the country. In so doing, the GoZ would be able to build an effective and self-sufficient emergency management, equipped with the necessary human expertise and financial resources. For instance, between January 2004 and December 2009, the UNDP, in partnership with the Ministry of Local Government, Rural and Urban Development, Food and Agriculture Organization (FAO), United Nations Children Fund (UNICEF), World Health Organization (WHO), United Nations World Food Program (WFP), OCHA, Zimbabwe Red Cross, International Federation of the Red Cross, some national NGOs and Save the Children, initiated a project designed to bolster the GoZ's capacity – at all levels – to prepare and respond to disasters (UNDP 2010).

Finally, in addition to promoting disaster mitigation and reduction education at the local universities in Zimbabwe, the GoZ should also find ways to leverage the financial and human capital of Zimbabweans living abroad – a third of Zimbabweans live abroad (Moss and Patrick 2006) – to improve its emergency management system.

Recommendations

Zimbabwe is a country full of promise, although, it faces many challenges that set it back from becoming a leader in emergency management in Africa. Nevertheless, the authors suggest the following recommendations to help take Zimbabwe's emergency management system to the next level. First, the GoZ should leverage technology to improve its emergency management. Technologies such as Geographic Information Systems (GIS), Global Positioning Systems (GPS) and Satellite Remote Sensing (Mwando and Matambandzo 2003) can play a big part in building a resilient nation to disasters. For example, GIS can be used to map irrigated lands using not only technical

information but, in addition, local knowledge of the ecosystem and local characteristics of community lands and resources (Mwando and Matambandzo 2003). By combining both indigenous and scientific knowledge, the GoZ can have a holistic understanding of agricultural resources, expected outputs, and policies needed to address shortfalls. The GoZ should, therefore, expand the use of these technologies as evidence suggests that GIS and GPS have been successfully used in the past to map paprika fields in Zimbabwe (Mwando and Matambandzo 2003).

Second, the key strategy to reducing the impacts of hazards on the people of Zimbabwe is to adopt both mitigation and preparedness strategies. For example, a mitigation strategy, which has already been adopted by the GoZ through the Grain Marketing Board, is the maintenance of grain and cash reserve and the importation of grains when the minimum reserve stock is reached (UNISDR 2005). Another mitigation strategy is to encourage farmers to plant drought resistant crops, such as millet and sorghum, during droughts in place of maize, which is not drought resistant (Maphosa 1994). On the preparedness side, the GoZ should invest in technologies that can help to provide communities with early warning information that is crucial in reducing the impact of disasters like floods and famine (IFPRI 2002; Gwimbi 2009). For instance, flood notifications can alert communities on impending floods and allow residents to evacuate ahead of the floods.

Third, the GoZ should leverage the resources and expertise of international organizations (e.g., World Health Organization) and developed countries such as the United States to help fight the HIV/AIDS epidemic through the provision of antiretroviral drugs and funding for nutrition programs. Furthermore, the GoZ should strive to improve and restore its water and sewage systems in order to reduce the likelihood of cholera outbreaks and continue to organize community awareness campaigns to educate Zimbabweans on ways of preventing cholera and HIV/AIDS. In light of the likelihood of local NGOs receiving more foreign aid than the GoZ, local NGOs will need to step up their efforts to assume supplementary and complementary roles (Young 2000; 2006) in educating the local communities about disaster preparedness and response. Overall, there is evidence to suggest that this educative role might be underway. For instance, in 2011, the Bindura University of Education and Science (BUSE) was proposing to introduce Disaster and Development studies, which would see students undertaking research in the Muzarabani area to help increase resilience of local communities to the prevailing hazards through education.

Finally, the GoZ should continue to establish partnerships with private entities in the food industry in Zimbabwe and neighbors, such as South Africa. Such partners can be called upon during famine or other emergencies to help with food supply and distribution (IFPRI 2002).

Conclusion

Zimbabwe has faced numerous disasters ranging from recurring droughts and floods, which have threatened the country's food security, tropical storms, and persistent public transportation accidents. Additionally, some parts of the country is susceptible to earthquake hazard. Nonetheless, as shown in the preceding discussion, these disasters have served as important laboratories of learning for the country's emergency management system. With its grounding in the 1982 Civil Defense Act legislation

(repealed by the 1989 Civil Protection Act), the GoZ sought to establish not only a civil protection organization tasked with emergency response, but also to set up a fund to finance the organization's civil protection activities. In an effort to promote localized disaster mitigation, preparedness and response, the newly proposed Emergency Preparedness and Disaster Management Act and the 2007 Disaster Risk Management Policy Draft, attempt to decentralize the emergency management system by engaging and strengthening all levels of government, as well as, the nation's private and nonprofit sectors.

Despite the efforts of GoZ to improve its emergency management system, many challenges continue to plague this system. However, opportunities to help bolster the system remain. We caution that effective governance is essential in order to implement the aforementioned recommendations effectively. In the absence of effective governance, corruption would ensue, resulting in a lack of transparency, a lack of participation and a lack of accountability (IFPRI 2002; Manyena 2006); all of which are necessary to provide an infrastructure for a viable emergency management system in Zimbabwe. A good emergency management system will go a long way in helping to reduce the impacts of disasters and put Zimbabwe back on track to becoming once again "the bread basket of Southern Africa" (Maphosa 1994; Swarns 2002; Hunter-Gault 2006).

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Notes

¹ One of the authors canvassed local newspapers in order to document the major transportation disasters in Zimbabwe between 1980 and 2003.

² The name is derived from the phrase “Dzimba Dzemabwe,” which means “House of Stone.”

³ Note that the Constitutional arrangements brokered during the Lancaster House Conference in 1979 prevented the new GoZ from touching the land issue at least for the first 7 – 10 years of the country’s independence (see Section 16 of the Constitution: Freedom from Deprivation of Property; Sibanda 1990).

⁴ <https://www.cia.gov/library/publications/the-world-factbook/geos/zi.html>. Retrieved on March 16, 2012

⁵ <https://www.cia.gov/library/publications/the-world-factbook/geos/zi.html>. Retrieved on March 16, 2012

⁶ <https://www.cia.gov/library/publications/the-world-factbook/geos/zi.html>. Retrieved on March 16, 2012

⁷ Zimbabwe has 5 major urban cities, namely Harare, Bulawayo, Mutare, Gweru and Kwekwe.

⁸ The 8 Provinces are Manicaland, Mashonaland Central, Mashonaland East, Mashonaland West, Masvingo, Matebeleland North, Matebeleland South, and Midlands, with Bulawayo and Harare as the two cities with provincial status.

⁹ <http://www.worldatlas.com/webimage/countrys/africa/zw.htm>

¹⁰ People sell their cattle as a coping mechanism to address food shortages. The income from the sale can be used to purchase food and other necessities.

¹¹ Muzarabani is located in the Mashonaland Central Province.

¹² Shona, together with Ndebele and English are the main languages spoken in Zimbabwe.

¹³ See http://www.herald.co.zw/index.php?option=com_content&view=article&id=17339:stop-the-carnage-on-our-roads&catid=39:opinion-a-analysis&Itemid=132. Retrieved on March 12, 2012

¹⁴ Gumbo (2006) points out that the 1990 – 1992 droughts reduced the national cattle herd by 50% (p. 13).

¹⁵ <http://reliefweb.int/node/120356>. Retrieved on March 22, 2012

¹⁶ See <http://www.cnn.com/2009/HEALTH/06/04/cholera.zimbabwe/> and

<http://www.mapreport.com/subtopics/d/countries/zimbabwe.html>. Retrieved on March 22, 2012

¹⁷ http://www.mlgvturd.gov.zw/index.php?option=com_content&view=article&id=89&Itemid=110.

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¹⁸ http://www.mlgvturd.gov.zw/index.php?option=com_content&view=article&id=89&Itemid=110.

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¹⁹ http://www.mlgvturd.gov.zw/index.php?option=com_content&view=article&id=89&Itemid=110.

Retrieved March 9, 2012

²⁰ The Herald “*Transport problems continue: Joint effort need to curb carnage*”: January 1991?

²¹ The Zimbabwe Mirror “*Private fund to help cope with natural disasters*,” Friday, September 4, 1998

²² This disaster fund no longer covers medical costs for the injured for up to three months or assistance with funeral expenses.

²³ The Herald “*CATASTROPHE: President declares national disaster*”: Monday, August 5, 1991

²⁴ The Herald “*MPs call for coordination on disaster management*” March 3, 2003

²⁵ The Herald “*MPs call for coordination on disaster management*” March 3, 2003