

**REPORT ON THE STATUS OF**

# Disaster Risk Reduction in the Sub-Saharan Africa Region

**JANUARY 2008**



Commission of the African Union



United Nations  
International Strategy for Disaster Reduction



THE WORLD BANK



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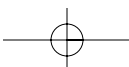
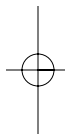
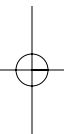
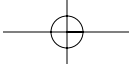
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# STATUS OF DISASTER RISK REDUCTION IN THE SUB-SAHARAN AFRICA REGION

January 2008

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## FOREWORD

This report on the status of disaster risk reduction in the region has been prepared to increase awareness of the importance of disaster reduction as an integral part of sustainable development. It is the result of ongoing efforts by the World Bank, the United Nations International Strategy for Disaster Reduction (UNISDR), and countries in the Sub-Saharan Africa (SSA) Region to effectively integrate disaster risk reduction into development processes.

The findings of this report are based on contributions from Governments at the Third National Platform Consultative Meeting in Nairobi, Kenya, on October 26-27, 2006, and at the West Africa Sub-regional Conference on Hazard Risk Reduction held in Abidjan, Cote d'Ivoire on May 17-18, 2007. A survey questionnaire was prepared and distributed with the support of UNISDR to countries in order to gather information on the following areas: (i) disaster risks in the region; (ii) institutional arrangements and capacity for disaster risk management; (iii) key regional and country gaps; (iv) best practices in disaster risk reduction across the region; (v) the role of the World Bank and other institutions; (vi) capacities of the World Bank to support and contribute substantively to disaster risk reduction in the region; and (vii) partner gaps and needs. This report documents the situation of disasters and disaster risk reduction in the region, identifies gaps in this area, and draws attention to related needs for remedial or enhancement actions. It aims to provide feedback to global, regional, and national entities in their efforts to mainstream disaster risk reduction in national and sub-national planning and enhance the contribution of disaster risk reduction to poverty alleviation and sustainable development.

The overall conclusion of the report is that the region has made significant progress in disaster risk reduction, especially in terms of policies, institutions, and organizations. National Disaster Management Organizations have been established, legislation is in place, a number of policy statements have been articulated, and political commitment to disaster risk reduction has been increasing gradually. There is also growing recognition of the need to improve and enhance the effectiveness and efficiency of disaster management and risk reduction. The major constraint is translating this momentum into sustainable programs and investments that can reduce long-term vulnerabilities. This is due to a number of factors, but especially lack of capacity to mainstream disaster risk reduction. Most disaster management institutions also face funding constraints which limit their effectiveness. Most countries have not established norms for allocating budgets for risk mitigation as part of ongoing development planning.

The report also confirms some of the conclusions of the Africa Regional Strategy for Disaster Risk Reduction that identified the following major challenges: (i) institutionalization of disaster risk reduction; (ii) inadequate information management and communication; (iii) inadequate involvement of citizens; (iv) limited risk identification and assessment across the region; and (v) weak integration of disaster risk reduction in development plans. The countries surveyed in the report also identified other major challenges such as the need to move from a focus on managing emergencies to disaster risk reduction, weak governance, and the need to improve the knowledge and information base on disasters.

The main authors of the report are Rakhi Bhavnani (Consultant) and Seth Vordzorgbe (Senior Regional Advisor, UNISDR Secretariat for Africa). Martin Owor (Senior Advisor for UNISDR in Africa) and Franck Bousquet (Senior Financial Specialist, World Bank) also provided significant inputs to various sections of the report. We would like to take the opportunity to thank all the stakeholders for their contributions but more importantly for their belief that combined efforts can make the difference for better disaster risk reduction in Sub-Saharan Africa. In particular, we would like to thank UNISDR and the African Union Commission for their leadership and the various comments provided on early drafts of the report. We also thank other key partners such as ECOWAS, UNEP, World Meteorological Organization (WMO) and the World Health Organization (WHO).



This report was financed under the Global Facility for Disaster Reduction and Recovery (GFDRR) in SSA. The initiative is co-managed by the World Bank and UNISDR, aiming to reduce the impact of disasters caused by natural and man-made hazards on populations and their livelihoods, particularly in low and middle income countries. The Bank Team Task Leader who supervised this report was Franck Bousquet, World Bank Regional Coordinator for Disaster Risk Reduction in SSA in 2006-07, while Trond Vedeld, Senior Social Development Specialist, Disaster Risk Reduction team leader took over from September 2007. Selvi Joy Isaac undertook the desk-top editing.

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## ACRONYMS

AfDB	African Development Bank
AIDS	Acquired Immune Deficiency Syndrome
AU	African Union
AUC	Commission of the African Union
BCPR	Bureau for Conflict Prevention and Recovery (UNDP)
CAP	Common Agriculture Policy
CIDA	Canadian International Development Agency
CRMG	Commodity Risk Management Group
DRR	Disaster Risk Reduction
ECCAS	Economic Community of Central African States
ECOWAS	Economic Community of West African States
EMCA	Environmental Management and Coordination Act
ENSO	El Nino-Southern Oscillation
ERL	Emergency Recovery Loan (ERL)
FIVIMS	Food Insecurity and Vulnerability Information and Mapping Systems
FEWSNET	Famine Early Warning System Information Network
FAO	Food and Agriculture Organization
GEO	Global Environment Outlook
GFDRR	Global Facility for Disaster Reduction and Recovery
GIEWS	Global Information and Early Warning System on Food and Agriculture
GPRS	General Packet Radio Service
GTZ	German Agency for Technical Cooperation
HIV	Human Immunodeficiency Virus
HFA	Hyogo Framework for Action
IACP	Inter-Agency Contingency Plans
ICSU	International Research Collaboration
ICSU ROA	International Research Collaboration Regional Office for Africa
IDA	International Development Association
IEG	Independent Evaluation Group (World Bank)
IGAD	Inter-Government Authority on Development
IYPE	International Year of Planet Earth
MDG	Millennium Development Goals
MOU	Memorandum of Understanding
NAPA	National Adaptation Programs of Action
NDMO	National Disaster Management Organization
NEPAD	New Partnership for Africa's Development
NGO	Non Governmental Organization
NP	National Platforms
OAU	Organization of African Unity
OCHA	Organization for the Coordination of Humanitarian Affairs
PRSP	Poverty Reduction Strategy Paper
REC	Regional Economic Communities
SADC	Southern African Development Community
SARDC	Southern African Research and Documentation Centre
SEAF	Special Emergency Assistance Fund
SSA	Sub-Saharan Africa
UN	United Nations
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
UNEP	United Nations Environmental Programme

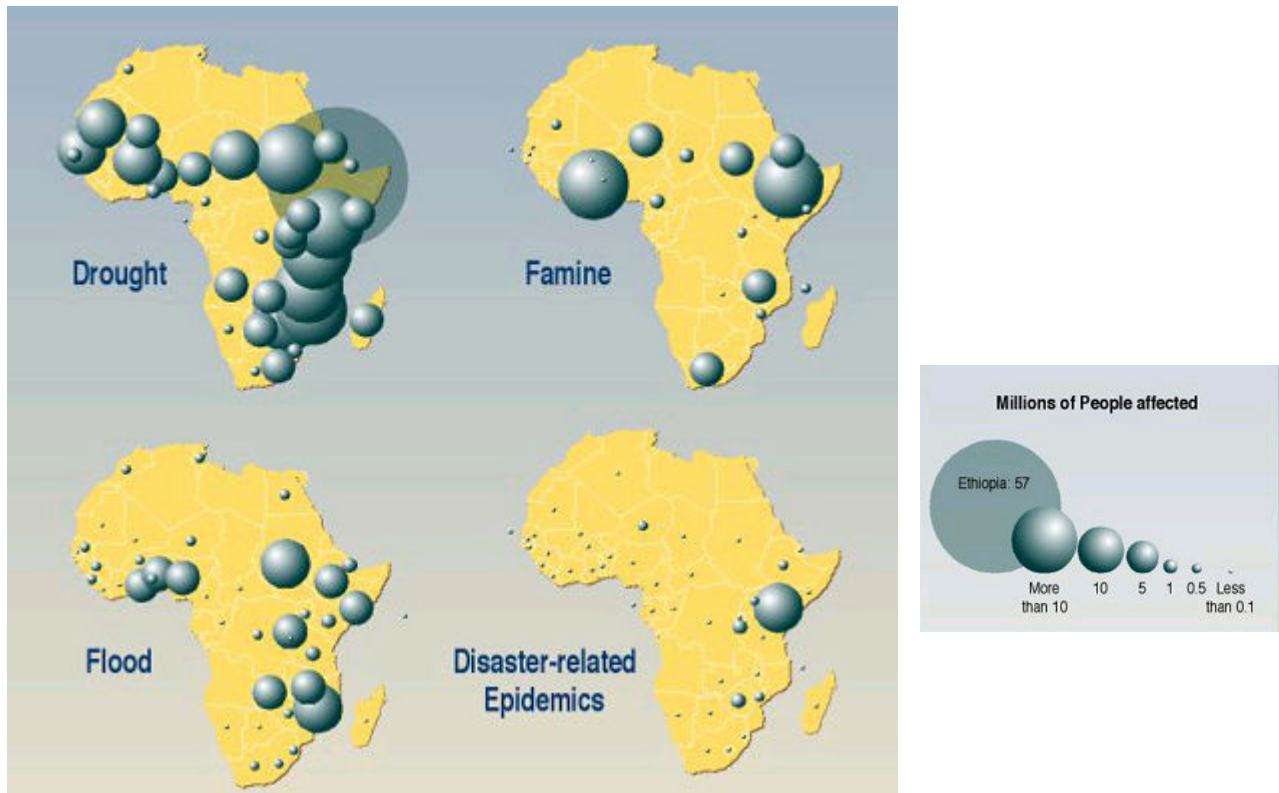
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children’s Fund
UNISDR	United Nations International Strategy for Disaster Reduction
UNCCD	United Nations Convention to Combat Desertification
UNESCO	United Nations Educational, Scientific and Cultural Organization
USAID	United States Agency for International Development
WB	World Bank
WCDR	World Conference on Disaster Reduction
WHO	World Health Organization
WMO	World Meteorological Organization
WFP	World Food Programme
WSCU	Water Sector Coordinating Unit
VAM	Vulnerability Analysis and Mapping

## EXECUTIVE SUMMARY

This report is the result of ongoing efforts by the World Bank, the United Nations International Strategy for Disaster Reduction (UNISDR), and countries in Sub-Saharan Africa (SSA) to effectively integrate disaster risk reduction into development processes.

Disasters, particularly related to meteorological and hydrological hazards and climate extremes are increasing across the region, exacerbated by unplanned and unregulated land use, weak environmental controls, poor enforcement of building standards, urbanization, and other development-linked factors that increase the vulnerability of people, property, and infrastructure. At 3.3 to 3.7 percent annually, African urban population growth rates have been and will continue to be the highest in the world. African city-based populations are growing faster than their counterparts in all other regions of the world and are estimated to continue to do so in the next two decades and very likely beyond. There are strong linkages between high-urbanization rates/high concentration of assets and increased vulnerability to hazards. There is a significant rising trend in the annual frequency of large-scale disaster events reported in Africa since 1985. Hydro-meteorological events cause the majority of loss of life and economic losses in SSA. These include floods, droughts, tropical cyclones and strong winds, storm surges, extreme temperatures, forest fires, sand or dust storms, and landslides (Figure 1). Africa has the highest mortality-related vulnerability coefficients for droughts and very high coefficients for cyclones and volcanoes. Drought and floods account for 80 percent of loss of life and 70 percent of economic losses linked to natural hazards in SSA.

**Figure 1: People Affected by Natural Disasters, 1971-2000**



Sources: Office of U.S. Foreign Disaster Assistance (OFDA); Centre for Research on the Epidemiology of Disasters (CRED); International Disaster Database, [www.cred.be/emdat](http://www.cred.be/emdat), Université Catholique de Louvain, Belgium.

Drought has been a perennial feature in most parts of the region since the early 1980s. SSA was affected by serious drought episodes in 1965-66, 1972-74, 1981-84, 1986-78, 1991-92 and 1994-95. The aggregate impact of drought on the economies of Africa can be large: 8-9 percent of GDP in Zimbabwe and Zambia in 1992, and 4-6 percent in Nigeria and Niger in 1984. Floods are among the most devastating natural hazards in Africa, including flash floods caused by tropical cyclones and severe storms. Devastating floods have been reported in major cities across the region. The 2000 floods in Mozambique cost an estimated \$550 million and lowered GDP growth rate to 1.5 percent (Mozambique's growth averaged 7.5 percent annually during 1994-2003).<sup>1</sup>

Epidemics and famine, the next most significant causes of loss of life in SSA, are strongly linked to meteorological and hydrological conditions. The ongoing climate change process will result in increased intensity, frequency and variability in the patterns of hydro-meteorological hazards.

In response to growing risks, a number of major efforts are underway at the regional, sub-regional, and national levels to reduce vulnerability. At the regional level, the African Union (AU), together with the New Partnership for Africa's Development (NEPAD) Secretariat, has developed the African Regional Strategy for Disaster Risk Reduction and a Programme of Action for the Implementation of the Africa Strategy (2005-2010). Implementation of the Strategy rests at the sub-regional and national levels. The First Africa Ministerial Conference on Disaster Risk Reduction (DRR) adopted the Programme of Action in 2005. In 2006, the African Ministerial Conference on Environment (AMCEN) mainstreamed the Africa DRR strategy into its five year program.

At the sub-regional level, the Inter-Governmental Authority on Development (IGAD) has developed a sub-regional strategy for disaster reduction. The Economic Community of West African States (ECOWAS) in early 2007 approved a sub-regional Common Policy and mechanisms for DRR. The Southern Africa Development Community (SADC) has revised its sub-regional strategy, factoring in DRR and the Economic Community of Central Africa States (ECCAS) has established a sub-regional center for DRR in the Republic of Congo and is developing a sub-regional strategy. The Indian Ocean Commission (IOC) is preparing to develop its sub-regional strategy.

Several SSA countries have also reinvigorated efforts to address growing disaster risks in a proactive way, including the development of strategies and mechanisms to reduce the potential impacts of a disaster before the event occurs. In Cameroon, Ethiopia, and Lesotho, for example, policies, legislation, plans, and agencies for disaster management have advanced considerably. Poverty Reduction Strategy Papers (PRSPs) for countries such as Gabon, Madagascar, Malawi, Mozambique, and Niger have incorporated aspects of natural disaster risk management.

In support of these efforts to integrate risk reduction strategies into development strategies for good governance, sustainable economic growth, and poverty reduction, UNISDR and the World Bank have developed a number of initiatives in the region. Under the new Global Facility for Disaster Reduction and Recovery (GFDRR), regional disaster risk reduction initiatives in partnership with SSA countries are being promoted to develop proactive and strategic approaches to managing hazard risks.

As a next step in developing mechanisms to address the vulnerability of SSA countries to natural disasters and the impact these events have on poverty reduction efforts, an analysis of the state of disaster risk management in the region was required to identify priorities and propose a strategic approach to how to better support countries in their efforts to protect their investments in poverty reduction and to promote sustainable development.

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<sup>1</sup> World Bank, "The Role of Water in the Mozambique Economy: Identifying Vulnerability and Constraints to Growth," Memorandum, June 2005, pages 21-23.

At the Third National Platform Consultative Meeting in Nairobi, Kenya, a survey questionnaire (Annex 1) was distributed to countries to gather information on the following thematic areas: (i) current disaster risks in the region; (ii) institutional arrangements and capacity for disaster risk management; (iii) key gaps at the country and regional levels; (iv) best practices in disaster risk reduction across the region; (v) the role of the World Bank and other institutions in supporting client countries to reduce disaster risk; (vi) capacities of the Bank to support and contribute substantively to disaster risk reduction in the region based on its comparative advantages; and (vii) gaps and needs that exist in relation to the Bank and other institutions to support decision processes related to disaster risk reduction.

A total of 33 out of 48 countries replied, providing country reports on the state of DRR. These countries are Botswana, Burundi, Cameroon, Cape Verde, Union of Comoros, Democratic Republic of Congo, Republic of Congo, Cote d'Ivoire, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gabon, The Gambia, Guinea Bissau, Kenya, Liberia, Madagascar, Malawi, Mali, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Seychelles, Sierra Leone, Somalia, Tanzania, Togo, Zambia, and Zimbabwe.

This report presents a synthesis of the information contained in the country-level surveys mentioned above, in addition to information acquired from other sources. It documents the situation of disasters and DRR in the region, identifies gaps, and draws attention to related needs for remedial or enhancement actions. It aims to provide feedback to global, regional, and national entities in their efforts to mainstream DRR in national and sub-national planning, and enhance its contribution to poverty alleviation and sustainable development.

## **Key Findings**

The region has made significant progress in DRR and a number of policies, institutions, and organizations have been set up to mainstream DRR. National Disaster Management Organizations have been established, legislation is in place in many countries, a number of policy statements have been issued, in disaster and non-disaster periods, and political commitment to DRR has been gradually increasing. Nonetheless, there is growing recognition of the region's need to improve and enhance the effectiveness and efficiency of disaster management and risk reduction.

The major constraint facing the region is translating this momentum into sustainable programs and investments that tangibly reduce long-term vulnerabilities. This is due to a variety of factors, especially inadequate capacity to mainstream DRR at the national and community levels. In some countries, lack of knowledge, skills, competencies, personnel and information at various levels to implement, monitor, and coordinate DRR programs and projects were identified as hurdles to progress.

Most disaster management institutions also face financing gaps which impact the extent to which DRR initiatives can be operationalized. Financing of disaster management projects is a shared responsibility, but norms for allocating budgets for risk mitigation as part of ongoing development planning have not been established in many countries.

This report's findings confirm some of the conclusions of the Africa Regional Strategy for Disaster Risk Reduction that identified the following major challenges in the region: (i) the lack of effective institutionalization of DRR; (ii) inadequate information management and communication, training and research for DRR; (iii) lack of involvement by citizens in DRR; (iv) limited risk identification and assessment across the region; and (v) weak integration of DRR in national development plans.<sup>2</sup>

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<sup>2</sup> African Union et al., "Africa Regional Strategy for Disaster Risk Reduction," Nairobi, 2003.

The countries also identified other major challenges such as the need to reorient emergency management and response toward disaster risk reduction, weak governance of disaster risk reduction mechanisms, and weak knowledge and information on which to base DRR decision-making.

## **Key Needs**

A number of areas were outlined by the countries for assistance in reducing the impact of natural hazards in the region. The central message from the surveys is one of advocacy for a comprehensive approach to mainstream DRR into development policies, strategies and plans within a framework of stronger and effective regional integration. Common themes across country responses were the need to build institutional capacity, improve human capital, enhance financial and technological resources, and support networking.

The region's approach should include a set of complementary and sustainable actions that integrate the need for disaster preparedness and prevention. Countries also stated the need to create pragmatic partnerships with regional and global organizations that can provide overall development support while simultaneously enhancing collective action to deal with the risk of disasters.

The following priority needs were identified:

***Improvement in the identification, assessment, and awareness of disaster risks.*** There is a need to strengthen knowledge of the variety, geographical coverage, type and extent of disaster risks across the region.

***Capacity development and coordination.*** The lack of technically oriented human resources dedicated to DRR at national levels has hampered the effective implementation of policies and projects. Cross-sectoral training for all professionals involved in disaster management is vital for the success of the regional strategy as well as for the implementation of national policies. In addition, there is a need to enhance coordination between DRR institutions in the region, particularly to address cross-country hazards.

***Enhancement of knowledge management for disaster risk reduction.*** The reorientation of disaster management practices into a DRR approach will occur when knowledge of disaster risks and reduction options is generated and disseminated effectively to all partners. It is therefore necessary to strengthen national and regional mechanisms and forums for the generation and transfer of knowledge.

***Increase public awareness of disaster risk reduction.*** Increasing public awareness of disaster risks and reduction options is critical in order to empower people to protect their livelihoods against disaster risks. Risk reduction information needs to be provided regularly through all communication channels, especially to strengthen the interaction between risk reduction authorities and the public at large.

***Strengthening disaster risk reduction institutions.*** Disaster management institutions need to be strengthened if DRR is to be integrated into broader development efforts, especially by strengthening their capacity and providing adequate and sustained financing.

***Integration of disaster risk reduction into emergency response management.*** DRR needs to be integrated into emergency response and post-disaster rehabilitation and reconstruction activities. A long history of disasters in the region has shown that timely and comprehensive recovery including relief; rehabilitation and reconstruction interventions can reduce vulnerability and promote development if they are designed to allow local coping capacities to contribute to sustainable recovery.

***Increased financial support for disaster risk reduction initiatives.*** Regular development support must factor in disaster reduction to achieve sustainable outcomes in a region that is highly vulnerable to climatic shocks, and is also affected by pervasive social and economic vulnerability.

***Mainstreaming disaster risk reduction into development planning.*** There is a need to proactively factor in disaster risk into the large number of projects underway in the region and generate increased political support to mainstream disaster management into development planning.

## **Going Forward**

The World Bank has had a long engagement in assisting countries recover from disasters and reduce their vulnerability to natural hazards. Disaster recovery and reconstruction is one of the largest activities at the Bank and there is growing awareness that vulnerability to disasters must be at the core of fighting poverty, as the poor are invariably the most affected by natural hazards.

In Africa, perhaps more than in any other regions, the World Bank's mission of reducing poverty in a sustainable manner is inescapably linked to DRR and improved management of resources. In both rural and urban settings, it is the poor who are most affected by, and most at risk from natural disasters. In addition this vulnerability is likely to increase substantially as a result of growing environmental stress and the effects of climate change.

Over the last two decades, the World Bank has been working in SSA to integrate risk management into development programs by: (i) providing policy advice to develop comprehensive risk management strategies; (ii) conducting detailed risk assessments and helping countries to implement risk mitigation programs; (iii) raising awareness of, and commitment to proactive risk mitigation; and (iv) ensuring that development activities are consistent and aligned with the goal of reducing disaster risks. These initiatives are in line with and directly support the strategic objectives of the Hyogo Framework of Action (HFA) to develop the resilience of societies and communities to natural hazards and disasters

Going forward, the Global Facility for Disaster Reduction and Recovery (GFDRR), a joint initiative of the World Bank and the UN International Strategy for Disaster Reduction which supports countries to develop and implement disaster risk mitigation strategies will be instrumental in implementing the recommendations from this report in collaboration with regional and national partners. Global activities to implement the HFA are facilitated and coordinated by the UNISDR.

## **Report Sections**

The study is divided into the following sections. The first section provides background on disaster risks in the region followed by an overview of disaster management at the World Bank and activities currently undertaken by other partners in SSA. The next section summarizes efforts at the regional and country levels in DRR, followed by best practices in the region. The final chapter identifies gaps, constraints and needs in DRR. An overview of PRR profiles of each country is provided in the annexes (based on information submitted by 33 respondent countries).



# 1. BACKGROUND

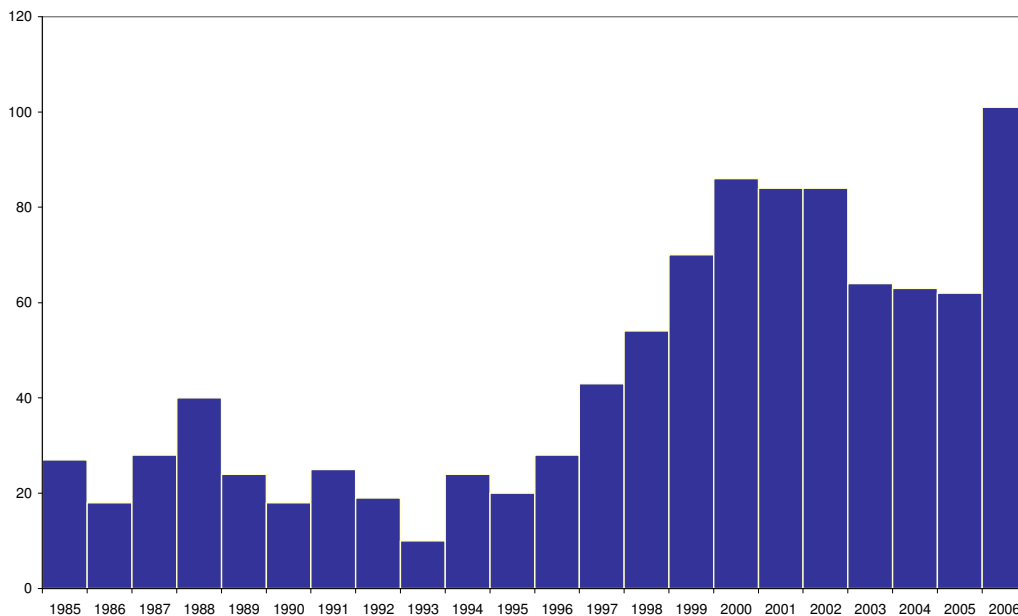
## 1.1. Sub-Saharan Africa Region Disaster Profile

This section analyzes the disaster situation in SSA including major hazards and factors that make populations vulnerable to disasters and the links between disasters, sustainable development and poverty.

Although SSA is not the most disaster prone region, it is the most vulnerable to disasters because of physical, social, economic and environmental factors that negatively affect the capacity of people to secure and protect their livelihoods. The major factors are poverty and low incomes, fragile and degraded environments, high prevalence of diseases and low access to social services, weak governance and armed conflict.

Populations in the region are highly vulnerable to natural disasters and these events show a rising trend. There has been an increase in the annual frequency of large-scale disaster events in Africa since 1985 (Figure 2). In terms of country incidence, Nigeria, the Democratic Republic of Congo, and Ethiopia experienced the highest number of disasters.

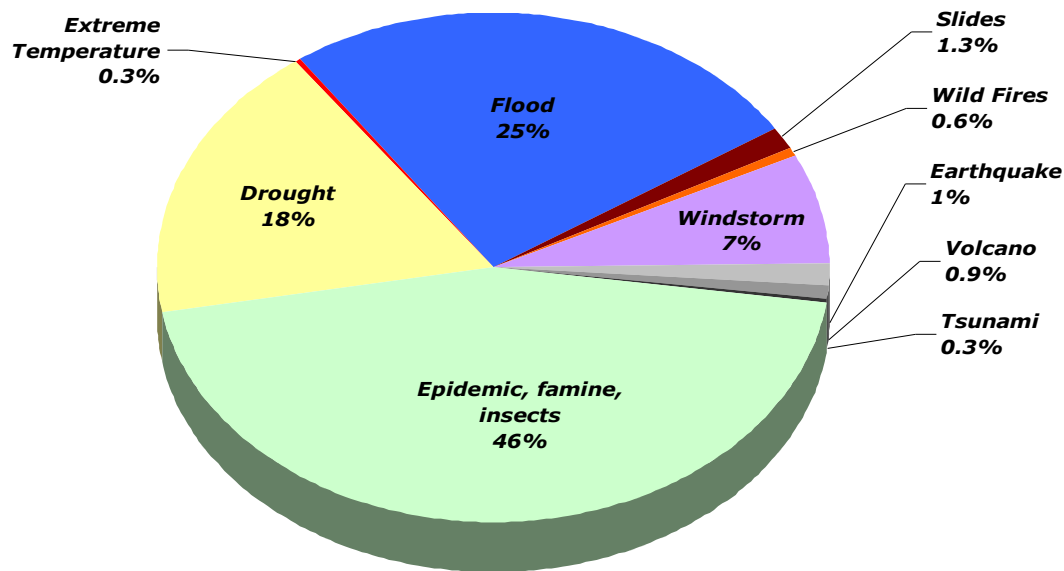
**Figure 2: Number of Reported Disasters in SSA**



Source: EM-DAT: The OFDA/CRED International Disaster Database – [www.em-dat.net](http://www.em-dat.net) –  
Université Catholique de Louvain, Belgium.

The World Bank and the Earth Institute at Columbia University undertook an assessment of natural disaster risks to human populations and economic activity to provide a quantitative basis for investments in sustainable development worldwide. The findings of the assessment, published in “Natural Disasters Hotspots: A Global Risk Analysis,” presented results for six natural hazards in the region. Figure 3 shows the distribution of hazards during 1985-2005 and Figure 4 shows mortality risk related to natural disasters in the region.

**Figure 3: Distribution of Disasters in SSA during 1985-2005**



Source: EM-DAT: The OFDA/CRED International Disaster Database, op cit.

The Hotspots Report notes that drought and combinations of drought and hydro-meteorological hazards dominate both mortality and economic losses in SSA, making it the region at most risk of disasters.<sup>3</sup> While other regions regularly face sudden disasters such as hurricanes and floods, most disasters in Africa are relatively silent, eroding the development capacity and livelihoods of the majority of the poor and weakening their coping and survival capacities. For example, recurrent drought, deforestation and progressive land degradation, desertification and other small localized disasters result in human, crop, livestock and environmental losses which are not easily measured by conventional disaster loss tracking systems.<sup>4</sup>

### 1.1.1. Hydro-meteorological Hazards<sup>5</sup>

Hydro-meteorological events cause the majority of life loss and economic losses in SSA. These include floods, droughts, tropical cyclones and strong winds, storm surges, extreme temperatures, forest fires, sand or dust storms and landslides.

Climate change and hydro-meteorological hazards are inextricably linked. Africa is highly vulnerable to the various manifestations of climate change, especially due to a warming of approximately 0.7°C over most of the continent during the 20th century, a decrease in rainfall over large portions of the Sahel and an increase in rainfall in east central Africa. Over the last ten years, the number of disasters related to meteorological, hydrological or climate extremes have increased significantly. The ongoing process of climate change will result in increased intensity, frequency and variability in hazard patterns. More subtle shifts in average climatic conditions and climate variability such as changes in precipitation totals or more erratic rainy seasons will also affect livelihoods and sectoral vulnerabilities through their impact on natural resources

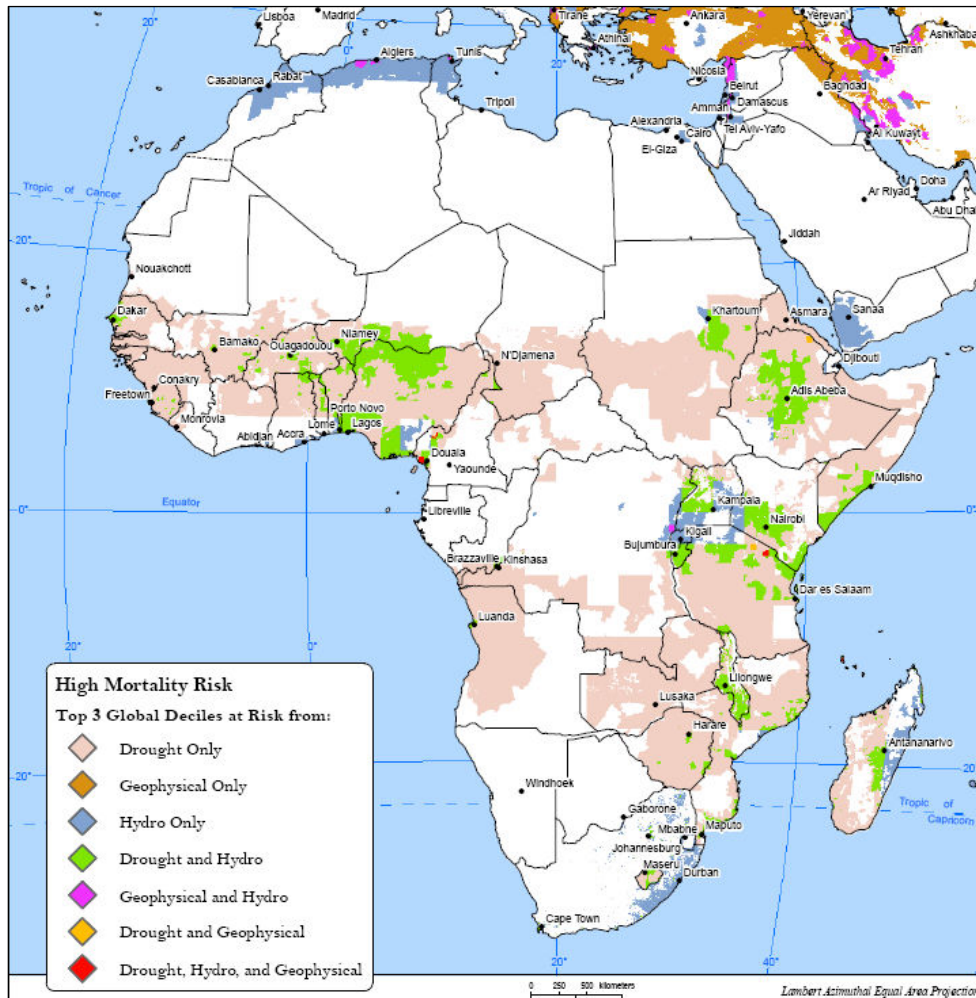
<sup>3</sup> Dilley, M. et al. *Natural Disaster Hotspots: A Global Risk Analysis*. Washington, D.C.: World Bank Publications, page 81.

<sup>4</sup> Holloway, A. *Natural Hazards Observer*, Vol. 23 no. 6.

<sup>5</sup> Adapted from ICSU Regional Office for Africa, "Natural and Human-Induced Hazards and Disasters in Sub-Saharan Africa," 25 August 2006.

and environmental services. Hence, climate change will likely compound the risk from natural hazards and should be factored into the design of strategies and programs to reduce disaster risks.

**Figure 4: Distribution of Hazard Risk Hotspots in SSA**



Source: “Natural Disaster Hotspots: A Global Risk Analysis,” 2005. World Bank and Columbia University.

**Flooding:** The primary cause of flooding is abnormally high rainfall (e.g., due to tropical cyclones) as well as a number of human-induced contributory causes such as land degradation, deforestation of catchment areas, increased population density along riverbanks, inadequate land use planning, zoning and control of flood plain development and inadequate drainage and management of discharges from river reservoirs. Floods (ravine flooding, coastal flooding and flash floods) are among the most devastating natural hazards in Africa, causing loss of lives and property, particularly flash floods caused by tropical cyclones and severe storms. Devastating floods have been reported in major cities across the region. The cost of the 2000 floods in Mozambique was an estimated \$550 million and GDP growth dropped to 1.5 percent (growth averaged 7.5 percent per annum during 1994-2003).<sup>6</sup> Floods also contributed to the spread of diseases such as malaria, dengue fever, cholera, and chikungunya.

<sup>6</sup> World Bank, “The Role of Water in the Mozambique Economy: Identifying Vulnerability and Constraints to Growth,” Memorandum, June 2005, pp. 21-3.

**Slides:** They include landslides, mudflows and siltation. Factors that affect mass movements include rock and soil types, rainfall patterns, topography and vegetation, although a number of human factors contribute, including overpopulation, poor land management, deforestation and failure to enforce appropriate zoning and spatial planning. Landslides cause considerable loss of life and damage to croplands and infrastructure, while erosion degrades arable land and reduces agricultural productivity. Siltation of rivers and dams results in shallow waters with adverse effects on irrigation schemes and thus agricultural production.

**Droughts:** Droughts differ from other natural hazards because they are slow-onset phenomena, their occurrence and effects cover wide spatial areas and their impacts are largely environmental and human but not structural. Droughts in Africa tend to have severe environmental, economic and social impacts. They aggravate environmental degradation through ecosystem and climatic effects, including deforestation, livestock overgrazing, soil erosion, wild land fires, biodiversity loss and water pollution. Social effects include reduced potable water supplies with negative health and sanitation consequences, especially for vulnerable groups, a higher burden on women who collect water for household consumption and migration pressures. Droughts can also have adverse effects on disease prevalence, as for example in the 1991-92 droughts when Mozambique experienced a severe outbreak of cholera as well as high cases of typhoid fever.

SSA is particularly prone to frequent, prolonged and widespread droughts. Since the 1960s, the Sahel has experienced devastating droughts that have lasted up to 30 years. The causes of droughts are strongly debated with some researchers pointing to land use and desertification as primary causes, while other studies focus on the intersection of atmosphere, land and ocean as the main causes. Droughts of the 1980s and 1990s have been linked to the El Nino-Southern Oscillation (ENSO) phenomenon. Drought is also exacerbated by deforestation outside the drought area itself, as in the case of the Congo Basin rainforest where deforestation causes a decline of rainfall and increased desertification outside the Basin. The overall impact of drought on the economies of Africa can be large: 8-9 percent of GDP in Zimbabwe and Zambia in 1992 and 4-6 percent in Nigeria and Niger in 1984.

The most severe consequence of drought is famine. Food aid to SSA accounts for around one half of the annual budget of the World Food Aid Programme. Considerable progress is being made in drought monitoring and early warning systems in many countries but the prospect of drought-induced famines continues to be a real and severe risk throughout the region.

**Tropical cyclones and tornados:** Cyclones can cause substantial economic losses by damaging dwellings, infrastructure and fisheries. The areas most frequently affected by cyclones in SSA are the Indian Ocean Islands and the coastal areas of eastern and southern Africa. Cyclones can penetrate inland as far as Botswana. A tornado is a violently rotating column of air that is in contact with the ground and is typically less than one kilometer in size, but is one of the most violent and destructive of all weather phenomena.

**Other hazards:** **Squall lines** develop from intense thunderstorm activity associated with the West African monsoon, causing significant wind and flood damage over a very short period of time. **Hailstorms** are associated with strong thunderstorms and occur in areas such as the South African highveld. The Sahel is one of the largest sources of **dust storms** in the world. Summer storms from the Sahara blow millions of tons of dust that alter air quality, affecting animals, plants, and weather. Much of the region is affected by **wildfires**, which destroy crops, buildings and infrastructure. A **heat wave** is a period of unusually hot weather which can last from a few days to a few weeks. Definitions of heat waves based on meteorological thresholds vary by location, while the human response to heat depends on the individual's state of health, acclimatization and lifestyle. There are no consistent statistical records on losses caused by heat waves in Africa although cases are regularly reported in the news. Extreme temperature hazard is estimated to account for about 1 percent of total hazard occurrences in West and Southern Africa.

### 1.1.2. Geological Hazards

Geological hazards have a far smaller impact in the region than hydro-meteorological hazards. On average, earthquakes have accounted for 2 percent and landslides and volcanic hazards for 1 percent of the region's disasters over the past two decades.<sup>7</sup> The region is characterized by relatively low seismic activity, with **earthquakes** randomly distributed in space and time. Earthquakes higher than 6 on the Richter scale occur on an almost annual basis in the East African Rift Valley, while the Cameroon Volcanic Line experiences earthquakes tied to volcanoes or fault movements up to magnitude 6. There is very little research on the region's risks from **tsunamis**, although the recent Indian Ocean tsunami impacted a number of African countries. In Somalia, 176 people were killed, 136 missing and 50,000 displaced. In Madagascar, 1,000 people were left homeless and one northern island in Mauritius was submerged. Active **volcanoes** are a serious threat to life and property. Africa has approximately 140 volcanoes that have erupted during the last 10,000 years and currently 25 are active.

### 1.1.3. Ecological Hazards

The main ecological hazard in SSA is **locust swarms**, which inflict significant damage. A small part of an average swarm (or about one ton of locusts) eats the same amount of food in one day as 10 elephants, 25 camels, or 2,500 people, thus jeopardizing the life of millions of farmers and herders in already fragile environments.

## 1.2. International Strategy for Disaster Reduction System Partner Agencies' Contribution

The HFA adopted by 168 countries in Kobe in January 2005, provides a framework for all stakeholders to contribute to the reduction of disaster risks at the international, regional and national levels. The International Strategy for Disaster Reduction (ISDR) provides a framework to ensure an effective and coordinated approach by major agencies involved in the implementation of DRR efforts.

### 1.2.1. World Bank

The World Bank has financed reconstruction since its inception and has increasingly been engaged in helping countries recover from disasters and reduce their vulnerability to natural hazards. Over the last two decades most of the Bank's borrowers have sought emergency financial assistance related to disasters.<sup>8</sup> The Bank has funded earthquake and flood recovery projects in China, a flood emergency recovery project in Mozambique, disaster mitigation projects in Europe and Central Asia, flood recovery projects in Bangladesh, loans for earthquake and flood reconstruction in India, and many others.

**The World Bank's Policy Framework** The Bank's disaster related work has been governed by four successive operational policies. The current policy is the Rapid Response to Crises and Emergencies Policy (OP 8.00) formulated in March 2007.<sup>9</sup> Through the years, the Emergency Recovery Loan (ERL) has become the instrument of choice in lending for natural disaster emergencies. (Table 1) outlines key provisions of the current policy.

A critical aspect of OP 8.00 is a shift in focus from merely responding to disasters through reconstruction, to investment in DRR including mitigation and pre-disaster preparedness as an integral component of

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<sup>7</sup> The OFDA-CRED International Disaster Database. Centre for Research on the Epidemiology of Disasters (CRED): <http://www.em-dat.net/disasters/profiles.php>

<sup>8</sup> World Bank Independent Evaluation Group (IEG), *Hazards of Nature, Risks to Development; an IEG Evaluation of World Bank Assistance for Natural Disasters*.

<sup>9</sup> World Bank, Operational Policy 8.00, "Rapid Response to Crises and Emergencies."

poverty reduction and sectoral strategies. The policy calls for the mainstreaming of DRR in County Assistance Strategies (CASs) and Poverty Reduction Strategy Papers (PRSPs).

**Table 1: Key Provisions of World Bank Policies Pertaining to Natural Disaster Risk Reduction**

Relief and consumption	The Bank does not finance relief and consumption.
Support for damage and needs assessment	The Bank provides immediate support in assessing the emergency's impact and develops a recovery strategy.
Implementation time	ERLs are fully implemented in two to three years.
Procurement rules	Standard Bank Operational Policies, including those on procurement, consultants, and disbursement, apply to ERLs.
Suitability for recurrent disasters	Regular investment projects (not ERLs) may be preferable for recurrent disasters (floods) and slow-onset disasters (droughts).
Design standards, prevention, and mitigation	ERLs use disaster-resilient construction standards, emergency preparedness studies, and technical assistance for prevention and mitigation. Prevention and mitigation projects carry out studies of vulnerability and risk assessment, reinforce vulnerable structures, adjust building and zoning codes, and acquire hazard-reduction technology.
Institutional and regulatory framework	The Bank helps countries to establish an adequate institutional and regulatory framework for prevention and mitigation.
Donor coordination	Collaboration with other development partners, local nongovernmental organizations, and donors is helpful in designing the recovery assistance strategy.

The following five-pillar framework is outlined in the policy to ensure a systematic, structured, and balanced approach to risk reduction:

- **Risk identification and assessment.** Hazard and vulnerability mapping; development of national database on social and economic losses; probability of loss exceedance or damageability analysis; geographical distribution of risk; appropriate institutional framework for periodic in-country risk assessment and linkages with national systems for poverty assessment.
- **Risk mitigation.** Hazard-specific mitigation measures (structural and non-structural) to be taken to minimize physical damage for existing and new facilities and infrastructure; development of building codes and standards for multi-hazard resistant design and their compliance in construction of housing and public infrastructure; prioritizing and financing for mitigation programs; setting up all-hazard warning and monitoring systems, hazard mapping and land use planning; watershed management; integrated coastal zone management.
- **Emergency preparedness.** Emergency response planning at all levels in government, community-based response planning, periodical drills and exercises, public awareness, information and communication systems, emergency response capacity enhancement.
- **Catastrophic risk financing.** Financial capacity to absorb catastrophic events, ex-ante funding arrangements, catastrophic insurance pool, and Contingent Capital Facility.

- **Institutional capacity building.** Decentralized emergency management system, community participation, legislative framework, training, education and knowledge sharing, international cooperation.

**Forms of Bank Assistance after Emergencies:** The Bank responds to emergencies in several ways. The most common is an Emergency Recovery Loan (ERL) where the operation receives fast-track clearance, convenes an advisory group, and uses simplified procedures. This instrument is meant to be implemented in three years, include designs and instruments to reduce vulnerability, is not meant for recurrent events, and allows for retroactive financing and advance contracting. Reallocations of funds from existing projects provide smaller amounts quickly after an emergency. Projects not yet approved can also be redesigned quickly after an emergency. In addition to responding to an emergency, the Bank can also design free-standing investment projects to prevent foreseeable emergencies or reduce their impact.

From 1984 to 2005, the Bank has invested \$26 billion in activities targeting natural disasters through 528 projects throughout the world. This includes projects entirely devoted to disasters, projects with specific disaster components, and projects with smaller disaster-related activities. These projects represent 9.4 percent of all Bank loan commitments during 1984-2005 and cover ERLs (including IDA credits and grants) and other instruments.

**Shift toward Risk Reduction:** The Bank recently examined its experience in disaster response over the past 20 years. The Independent Evaluations Group’s (IEG) report, “Hazards of Nature, Risks to Development: An IEG Evaluation of World Bank Assistance for Natural Disasters,” made three major recommendations: (i) preparation of a strategy or action plan for natural disaster assistance; (ii) revision of policy to better guide staff and enhance flexibility of the Bank’s response to natural disasters; and (iii) increase in the Bank’s capacity to respond to disasters and ensure that it can be mobilized quickly.

**Global Facility for Disaster Reduction and Recovery:** In response to the findings of the IEG Evaluation Report, in 2006 the World Bank established the Global Facility for Disaster Reduction and Recovery (GFDRR) to support client countries integrate risk reduction strategies into development processes at the country and local levels in line with HFA. The Facility currently has three tracks:

*Track 1 Global and Regional Deliverables*

- Enhancing global and regional advocacy, partnerships and knowledge management facilitated through the ISDR secretariat for mainstreaming disaster risk reduction in low and middle income countries at risk; and
- Standardizing hazard risk management tools, methodologies and practices.

*Track 2 Country Level Deliverables*

- Ex-ante risk management strategy and institutional development including early warning systems and emergency preparedness in low and middle-income countries;
- Supporting innovative projects to demonstrate cost-effective hazard mitigation to reduce risks associated with critical infrastructure;
- Learning, research, and knowledge management for current and future risks;
- Developing frameworks to catalyze investment in hazard prevention, mitigation and preparedness; and
- Ex-ante disaster recovery financing mechanism established in middle income countries.

*Track 3 Standby Recovery Financing Facility*

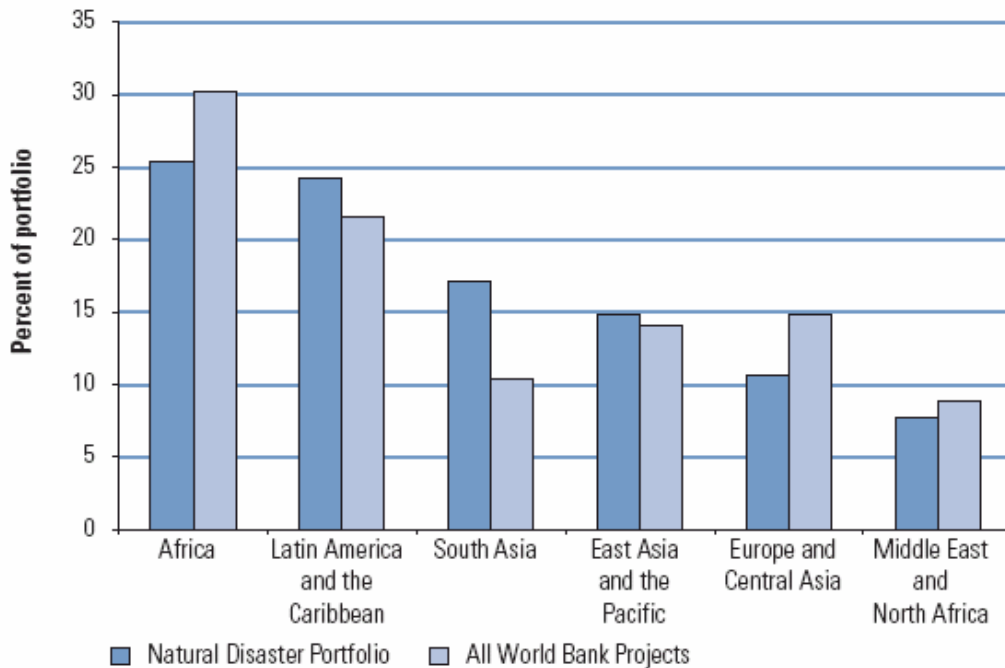
- Support for rapid and predictable disaster recovery operations, primarily to assist low-income countries to accelerate recovery operations and to complement existing international coordination and financing instruments of multilateral and bilateral agencies;

- Callable fund and technical assistance to undertake loss and damage assessments and build capacity; and
- Provide an incentive for low-income countries to invest in ex-ante risk management and mainstreaming of DRR.

**South-South cooperation: Towards a new mechanism in GFDRR:** GFDRR is in the process of establishing a new mechanism that will enable the development of South-South partnerships in the area of disaster reduction. The specific purpose of this mechanism is to build-up and share capacities among low and middle income countries that will enable them to mainstream and expand disaster risk reduction as called for by the Hyogo Framework for Action (HFA).

**World Bank in Sub-Saharan Africa:** The SSA Region has been a key area for disaster reconstruction and risk reduction initiatives. Since 1984, the Bank has lent over \$6.5 billion to countries in SSA for disaster-related activities (\$5.3 billion for mitigation projects and \$1.2 billion for reconstruction). (Figure 5) illustrates the natural disaster portfolio in comparison with all Bank projects.

**Figure 5: Natural Disaster Portfolio in Comparison with All World Bank Projects**



Source: IEG. 2006.

Examples of projects that have focused on disaster management in SSA include:

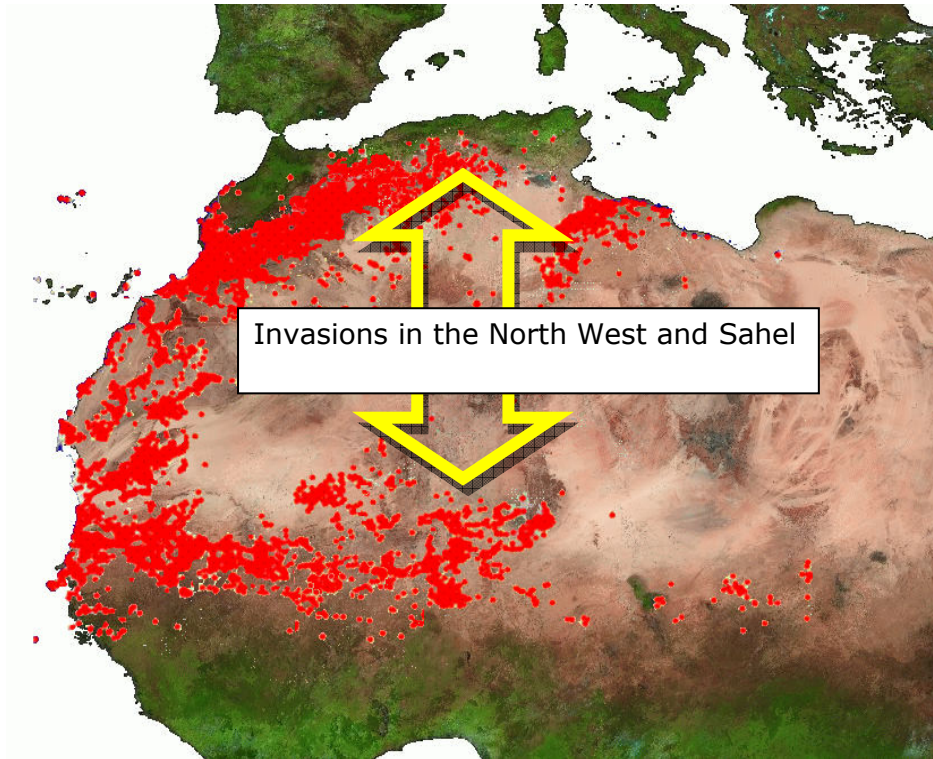
**Western Kenya Community-Driven Development and Flood Mitigation Project:** The first credit of \$86 million supported the creation of new opportunities for local communities in Western Kenya to engage in wealth creating livelihood activities and reduce their vulnerability to flooding. The second credit of \$68.5 million is focusing on helping Kenyans better manage water and forest resources and improve the livelihoods of surrounding communities.

**Africa Emergency Locust Project:** The 2004 Project provided support of \$60 million to Burkina Faso, Chad, Mali, Mauritania, Niger, Senegal and the Gambia for assistance in mitigating the impact of locust infestations in West Africa. At the time, West Africa was facing its worst locust infestation in 15 years,



spreading from the Atlantic coast to eastern Chad. The growing infestation threatened agriculture productivity and had the potential of triggering famine in a region where many people are subsistence farmers and governments have limited capacity to combat such hazards (Figure 6).

**Figure 6: Locust Invasions in West Africa in 2004.**



The project aimed at reducing the hardships imposed on people and the environment by current and future locust invasions. These hardships not only include the immediate crop and livestock losses, but also delayed effects from losses in productive assets and reduced income opportunities. Although the rural poor suffer most from locust infestations, the hazards from the application, handling and storage of pesticides are also of concern for both people and the environment. The project treated 12 million hectares of land and supported improved prevention strategies, early warning, reaction, and mitigation at the national and regional levels.

**Mozambique Flood Emergency Recovery Project:** Heavy rains in 2000 flooded parts of Mozambique, resulting in the largest natural disaster in the country's history. Altogether, about 1.9 million people were affected by the floods with a million more requiring emergency assistance. The project assisted the country in providing immediate funding for the purchase of equipment and critical inputs for the rehabilitation effort. These included food, fuel, construction materials, agricultural inputs, essential health and education supplies, machinery and equipment.

**Malawi, Kenya, Zambia Emergency Drought Recovery Projects:** In response to the 2001/02 food crisis in Malawi, Kenya, and Zambia, the World Bank project interventions centered on aiding countries to recover from the disaster, protecting the most vulnerable in the crisis, and reducing vulnerabilities to food crises in the future. The projects provided funding to support critical imports required for recovery and for rebuilding productive capacities.

**The Eastern Nile Flood Preparedness and Early Warning Project:** The countries in the Eastern Nile region are highly vulnerable to floods. The extensive floodplains of Sudan and areas of Ethiopia are particularly at risk. In the last decade, Sudan for example has suffered from major floods in 1994, 1996, 1998, 1999, and 2002. Potential climate change may also impact the frequency and scale of future flooding in the Eastern Nile. The World Bank, through its support for the Nile Basin Initiative, is assisting countries to manage disaster risks and build critical institutional capacity. The project provides financing for regional coordination, flood preparedness and emergency response, and a flood forecasting warning and communication system.

**Madagascar Cyclone Emergency Rehabilitation Project:** Following cyclones Daisy and Geralda of 1994, where more than 60,000 were left homeless in Madagascar, the World Bank provided funding for the rehabilitation of critical infrastructure, including reconstruction of roads and public buildings, and strengthening of coordination activities.

**World Bank Climate Change Projects:** The World Bank is implementing a wide range of climate change related activities in the agriculture and rural development sectors. Most activities are recent and include a combination of: (i) integration of climate change components into investment projects; (ii) implementation of GEF Grants under the Special Climate Change Fund; (iii) implementation support for two National Adaptation Programs of Action (NAPA); (iv) analytical work; and (v) technical assistance. Examples include:

**Kenya Adaptation to Climate Change in Arid Lands Project:** This project, supported through a GEF Grant, aims to assist Kenya to adapt to expected changes in climatic conditions that threaten the sustainability of rural livelihoods in its arid and semi-arid lands. The project is linked to the Arid Lands Resource Management Project and will help identify and implement strategic adaptive responses to climate change risks. This objective will be achieved by improving the linkages between local level planning processes and scientific climate-related information and knowledge.

**Multi-Country TerrAfrica and GEF Special Program for Adaptation:** As co-chair of the TerrAfrica Partnership, the World Bank is promoting a more harmonized approach to sustainable land management (SLM) in SSA. A core challenge is to reduce vulnerabilities of rural livelihoods to climate variability and change to ensure long-term sustainability of land management. Adaptation to climate change and SLM are intrinsically interlinked. In the absence of alternative options, short-term responses to climate extremes often lead to the depletion of the natural resource base. Environmental degradation in turn increases local vulnerabilities to future climate events. The Bank aims to integrate climate risk management perspectives into SLM activities linked to the TerrAfrica Framework by bringing together a broad range of stakeholders and implementing activities across spatial scales.

**Burkina Faso Community Based Rural Development Project II:** The project supports rural communities in planning and implementing local development activities in a participatory and sustainable manner. Particular emphasis is placed on community-driven approaches and strengthened decentralization to adapt rural livelihoods and agricultural production to climate change.

**Madagascar Adaptation and Risk Management:** Madagascar is highly exposed to weather hazards. This technical assistance operation aims to develop an index weather insurance scheme to protect primarily agriculture-dependent and poor households which suffer disproportionately from weather shocks. This type of insurance is based on a quantitative metric (an index) that captures the occurrence and severity of an event (e.g., a drought) and payments to insured parties are made by a pre-defined formula based on meteorological data.

**Mozambique IDA/GEF Zambezi Valley Market Led Smallholder Development:** This project addresses the impact of climate variability on rural livelihoods in the Zambezi Valley. It explores options for smallholders to better manage climate-related risks and improve livelihoods of small-scale farmers.

**Managing Risk in Rural Senegal:** This analytical work will test the feasibility and pilot the implementation of a rainfall-based index insurance for farmers in the Groundnut Basin.

**Multi-Country Policy Nexus of Agriculture and Global Climate Change in Africa:** This analytical work synthesizes the findings of a research project on climate change and agriculture in Africa. The report focuses on a quantitative assessment of the economic impacts of climate change on agriculture and farming communities in Africa. The results suggest that Africa will be hit hard by severe climate change under various scenarios, but also notes that farmers already practice some forms of climate adaptation.

**GFDRR Activities:** GFDRR activities in the region under Track I include:

- Support for mainstreaming DRR in the Commission of the African Union (AUC) plans and programs;
- Strengthening AUC capacity to implement HFA 2005-2015 and the Africa Regional Strategy for DRR through an MOU and the posting of an experienced DRR expert to the AUC;
- Advocacy leading to the approval by the Economic Community of West Africa States (ECOWAS) Commission to utilize the West Africa Disaster Reduction Conference and its outcomes as part of the process for developing a program of implementation for its sub-regional DRR strategy;
- Strengthening of the Africa Forum of National DRR Focal Points through sponsorship of the Third Consultative Meeting October 2006 that led to the production of this status report;
- Expansion and strengthening of UNISDR Africa Outreach Office (additional staff and office space);
- Holding of the Africa Regional DRR Platform meeting on April 26-27, 2007;
- Organization of the first West Africa Disaster Risk Reduction Conference May 17-18, 2007; and
- Facilitation of participation of African countries in the Global Platform meeting June 5-7, 2007 in Geneva.

**Malawi and Mozambique Mainstreaming Disaster Risk Reduction:** GFDRR activities in Track II support the mainstreaming of DRR in Malawi and Mozambique. In Malawi, the project provides assistance for national policy and strategy development, institutional development of its national disaster organization, short-term multi-sectoral disaster preparedness planning, analysis of lower Shire River flooding, awareness raising at various levels, training of district-level civil protection committees through the Red Cross and a study of disaster recovery financing and economic impact of disasters.

In Mozambique, funds are being used to establish regional operation centers, pilot district level multi-purpose centers, a strategic communications system, analysis of priority drought and flood risks, improvement of information management and analysis and a study of disaster recovery financing and economic impact of disasters. In coming years, the following additional countries will also receive Track II support (Table 2).

**Table 2: World Bank GFDRR SSA Track II Countries.**

	<b>Country</b>	<b>Year</b>
1	Malawi	FY07
2	Mozambique	FY07
3	Comoros	FY08
4	Ethiopia	FY08
5	Kenya	FY08
6	Madagascar	FY08
7	Rwanda	FY08
8	Seychelles	FY08
9	Burkina Faso	FY09
10	DRC	FY09
11	Eritrea	FY09
12	Niger	FY09
13	Senegal	FY09
14	Swaziland	FY09

### **1.2.2. United Nations International Strategy for Disaster Risk Reduction**

The UNISDR Secretariat is an entity within the United Nations that services the UNISDR system and serves as a catalyst and main focal point within the UN system for DRR. UNISDR also promotes ownership and commitment to DRR by national, regional and international stakeholders and reports on progress in HFA implementation.

UNISDR has supported and played a catalytic role in the development of institutional partnerships to promote DRR in Africa. With that support, the AU and NEPAD Secretariat, in cooperation with UNDP and the African Development Bank, conducted a baseline study of disaster reduction potential in Africa in 2003. The partners subsequently established an Africa Working Group for DRR, developed the African Regional Strategy for Disaster Risk Reduction, produced Guidelines for Mainstreaming Disaster Risk Assessment into Development and prepared the Programme of Action for the Implementation of the Strategy in 2004. The Africa Advisory Group on DRR was established in 2005 followed by the successful organization of the first Africa Ministerial Conference on DRR which adopted the Programme of Action for the Implementation of the Africa Regional Strategy for DRR. In May 2006 at Brazzaville, the African Ministerial Conference on Environment mainstreamed the Africa DRR strategy into its next five-year program.

At the sub-regional level, the Inter-Governmental Authority on Development (IGAD) has developed a sub-regional strategy for disaster reduction. The Economic Community of West African States (ECOWAS) on January 19, 2007, approved a sub regional Common Policy and mechanisms for DRR developed with UNISDR support. The Southern Africa Development Community (SADC) has revised its sub-regional strategy, factoring in DRR. The Economic Community of Central Africa States (ECCAS) has established in the Republic of Congo a sub regional center for DRR and is developing a sub regional strategy. UN/ISDR is also programming assistance to the Indian Ocean Commission (IOC) to develop its sub-regional strategy.

As part of activities aimed at ensuring that DRR is a development priority, UNISDR Africa, with support from its national partners, promoted advocacy by heads of state, including the Presidents of Madagascar and Nigeria, to increase commitment of political leaders to DRR. A flagship initiative is the development of national platforms for DRR as a key element of the ISDR system. At the national level, 25 African countries have established National Platforms for DRR and are making progress in transforming it into a

development priority by mainstreaming it into sector programs. A number of countries such as Uganda, Ghana, Senegal and Madagascar have revised their PRSPs, integrating DRR as a cross cutting issue, and are moving further to introduce DRR into annual work plans and budgets. The Horn of Africa countries have successfully integrated climate scientists and NAPA coordinators into their national platforms. UNISDR is planning joint missions to Malawi and Mozambique with AUC and the World Bank to launch national platforms and promote DRR. To coordinate these national efforts, the first Africa Disaster Risk Reduction Platform meeting held in Nairobi was followed by the first Sub-Regional Platform meeting in Abidjan for West Africa on May 17-18, 2007 funded under Track I of the GFDRR.

UNISDR has also promoted risk assessment and development of early warning systems. To increase understanding of droughts in Africa, UNISDR, in partnership with UNDP Dryland Centre, developed a knowledge network on drought and is implementing a SIDA-funded initiative to promote drought reduction initiatives in the Horn of Africa. It has supported application of space technology in hazard observation and monitoring in IGAD countries. As part of preparations for the Second International Conference on Early Warning in 2003, UNISDR coordinated an Africa Regional Consultative workshop and sub-regional reviews of early warning systems in IGAD, SADC and ECOWAS. In parts of Eastern and Southern Africa, UNISDR is supporting efforts to strengthen early warning systems and develop public awareness of tsunami and earthquakes.

UN/ISDR has been active in promoting the use of knowledge and education to build a culture of resilience, including: (i) support to develop and strengthen knowledge networks, including the University Network on Disaster Reduction in Africa; (ii) production of information materials such as guides for community leaders, children's booklets and information kits on several DRR themes; (iii) production of the biannual journal ISDR INFORMS; and (iv) electronic dissemination of weekly Spotlights of Information on DRR to recipients in Africa. In addition, UNISDR Africa, at the request of the IGAD Secretariat, supported its efforts to develop a training manual on DRR and conducted a test training in 2006. UNISDR also supported media capacity development activities in some East Africa countries and promoted DRR national awareness campaigns on education and safe schools.

To help strengthen disaster preparedness, UNISDR has supported dissemination of climate information to communities and supports countries with civil defense structures to integrate DRR, including establishment of National Platforms for disaster reduction, and has ensured participation of the response community in Africa in various DRR events, such as the West Africa sub-regional consultation, the regional platform meeting and the Global Platform.

UNISDR has also facilitated national and regional reporting on implementation of HFA. These developments have been underpinned by growing cooperation between UNISDR and the African Union and Regional Economic Commissions, resulting in UNISDR providing technical assistance staff to enhance the capacity of the Africa Union to implement the Africa Strategy.

### **1.2.3. World Meteorological Organization**

The World Meteorological Organization (WMO) is a specialized agency of the United Nations. It works with a coordinated network of National Meteorological and Hydrological Services of its 188 Members, who provide observations, monitoring, modeling, forecasting and warning of meteorological, hydrological and climate-related events. A key element for successful reduction of disaster risks is the proper utilization of this scientific and technical information for risk assessment, sectoral planning and decision-making.

In 2003, WMO established a crosscutting Programme on Natural Disaster Prevention and Mitigation that leverages existing activities, expertise and resources of WMO, members and external partner agencies. The strategic goals of WMO for DRR have been developed based on the HFA, and pertains to those activities

that fall either directly under the mandate of National Meteorological and Hydrological Services and WMO or to which they contribute significantly, including:

- Infrastructures, systems and capabilities for observing, detecting and forecasting hazards;
- Provision of hazard information for risk assessment, sectoral planning and other decision-making;
- Development and delivery of warnings;
- Awareness and public outreach campaigns; and
- Partnerships with civil security and disaster risk management agencies.

These priorities are being implemented through regional and national projects, in cooperation with international and regional partner agencies and the network of National Meteorological and Hydrological and Climate Services, 40 Regional Specialized Centers and 30 Regional Training Centers.

It has been shown in several countries that investment in National Meteorological and Hydrological Services (human resources, infrastructures, services) contributes to sustainable development. Specifically, investments in national infrastructures for weather, climate or water have returns of 10 to 1, whereas overall investment in prevention measures are estimated at 7 to 1. Key WMO activities in SSA are briefly described below.

**Climate Outlook Forums.** Regional Climate Outlook Forums are convened annually in the Greater Horn of Africa, South Africa and West Africa, to elaborate and ensure appropriate dissemination of consensual regional outlooks, bulletins and products about the next rainy season. These outlooks are directed toward the needs of users from agriculture, health, water management and energy, based on their input and feedback.

**Drought Monitoring for Eastern and Southern Africa.** To support drought monitoring, WMO and UNDP established the IGAD Climate Prediction and Applications Centre as a specialized institution of IGAD. The participating countries are Burundi, Djibouti, Eritrea, Ethiopia, Kenya, Rwanda, Somalia, Sudan, Uganda and Tanzania. Two operational centers in Nairobi and Harare are charged with monitoring drought intensity, geographical extent, duration and impact on agricultural production, and issuing early warnings.

**Malaria Outlook Forums.** Malaria Outlook Forums, initiated in South Africa in 2004, are operational in the Greater Horn of Africa since March 2007. In close links with Regional Climate Outlook Forums, they facilitate modeling and analysis by experts in the climate and health communities to produce outlooks and advice, up to three to four months ahead in areas potentially at risk of malaria outbreaks.

**Early Warning Systems for Desert Locusts.** A Pilot Project was developed for Senegal and Mauritania, to explore utilization of advanced forecast models for locust monitoring and control, and to improve coordination between National Meteorological and Hydrological Services and National Locust Control Centers.

**Severe Weather Forecasting in Southern Africa.** In five countries in Southern Africa (Madagascar, Mozambique, South Africa, Tanzania, Zimbabwe), this project has led to critical improvements in the lead time and accuracy of forecasts for extreme weather phenomena such as tropical cyclones, heavy rainfall, strong winds, and improved the prediction of hazards they triggered. In 2008, this project will expand to other countries in the region and shift its focus toward preparedness, involving national civil security services.

**Climate Adaptation.** Following endorsement of the strategy, “Climate Information for Development Needs: An Action Plan for Africa” by the African Union Heads of State in January 2007, the ClimDev Africa Programme addresses the needs for improved climate observations as expressed in the GCOS

Regional Action Plans, and the need for climate services, climate risk management, and associated policy development and implementation.

**Contributions to the Design and Settlement of Risk Transfer Contracts.** A fundamental precondition for development of weather risk markets is availability of meteorological, hydrological products and services, including historical records of key variables (temperature, precipitation), real-time monitoring of these variables during the contract period, and availability of authoritative data for settlement of the contract. According to intensity, timescale and frequency of hazards, WMO is preparing a strategy to assist the development of risk transfer mechanisms through development of country capacities to provide relevant information.

**Hydrology and Water Resources in the Zambezi, Volta, Niger and Senegal Basins.** The World Hydrological Cycle Observing System contributes toward an easily accessible source of hydrological information that provides the basic building blocks for sustainable development through water resource assessment and planning, ecosystem and water quality monitoring, flood forecasting and drought monitoring and prediction. WMO is also providing advice to reorganize and strengthen the national hydrological services for Volta, Niger and later Senegal Basins.

The Integrated flood Management strategy integrates land and water resource development in a river basin, and aims to maximize the net benefit from floodplains and to minimize loss of life from flooding. Case studies include Zambezi Basin and Lake Victoria Basin. To assist a wide range of actors in this process, a hydrology and water resources management helpdesk is being developed as a facility to provide guidance on flood-related issues to countries that want to adopt the integrated flood management concept. This facility will provide quick access to relevant flood management information, provide guidance and momentum for reform activities in the countries or river basins, and serve as a link between flood management practitioners or decision makers and experts in various fields, and between technical and financial partners.

**African Monsoon Multidisciplinary Assessment Project in West Africa.** 30 countries and more than 140 institutions participate in this long-term initiative which aims to improve knowledge and understanding of the West African monsoon and its variability, especially as it relates to issues of health, water resources, food security and demography in the sub-region.

#### **1.2.4. Bilateral Donors**

Many bilateral donors have supported DRR initiatives in SSA with key projects such as education and awareness building, school safety programs, locust management, and food security. One such organization mentioned numerous times in the survey questionnaires is the United States Agency for International Development (USAID).

USAID, through its Office of U.S. Foreign Disaster Assistance (OFDA) is helping to minimize the impacts on vulnerable populations before, during and after a disaster. In addition to supporting programming related to floods, droughts, extreme weather, tsunamis, earthquakes, landslides and volcanoes, OFDA provides technical assistance to strategically address risk reduction needs worldwide. In FY06, OFDA provided \$35 million to support risk reduction activities in Africa, Asia, the Middle East and Latin America and the Caribbean. Many OFDA programs in response to food insecurity include strong developmental relief components, intended specifically to increase the resilience of communities to future shocks. These interventions range from the distribution of drought-tolerant crops and agricultural extension services, to the further development of community water management systems and resources. Like the risk reduction programs in SSA described below, OFDA's disaster response interventions are designed to support local response capacity and increase resilience.

**Greater Horn of Africa Flood Mitigation Initiative.** To support flood emergency preparedness and disaster response, this initiative works to improve the capacities of regional and national institutions in the Greater Horn of Africa. To reduce vulnerability to flooding, the Initiative aims to enhance and implement a range of products and tools for flood early warning, water resource management, and response and contingency planning at regional and national levels in partnership with the U.S. Geological Survey.

**Regional Disaster Risk and Vulnerability Reduction in South Africa.** In 2006, OFDA partnered with the University of Cape Town to build sustainable capabilities in disaster risk and vulnerability reduction in selected institutions of higher learning in Africa, consistent with global disaster reduction priorities reflected in the HFA. This program is building on local energies and commitments already generated from within the region by supporting the development of university-based risk reduction units and programs to build capabilities in formal education, short course training, local research, and vulnerability reduction policy advocacy.

**Urban Search and Rescue Capacity in South Africa.** In 2006, OFDA partnered with the Los Angeles and Fairfax Fire Departments to train South African USAR teams.

**Inter-Governmental Authority on Development Climate Prediction and Application Center (ICPAC).** With WMO, ICPAC has implemented a regional seasonal climate prediction system and applications in various sectors in order to reduce the vulnerabilities associated with climate variability. In the ten Greater Horn of Africa countries, the project has improved climate monitoring, prediction and applications, as well as early warning of climate-induced disasters.

**Flood Early Warning Systems in Mozambique.** Since 2003, OFDA has partnered with FEWS NET, Radio and Internet Technology for Communication of Weather and Climate Information, and USAID/Mozambique to support flood early warning in the Limpopo River Basin. The program includes flood risk mapping, community flood education, planning and preparedness, and radio broadcast. Similar programs in Mozambique are credited with the success in responding to heavy flooding in Mozambique in 2007.

**Protection against Livelihood Loss.** In partnership with WFP, OFDA is supporting the development of a drought insurance program to protect against livelihood loss in Ethiopia. This innovative program seeks to use financial markets as mechanisms to reduce risk and to protect Ethiopian farmers against severe livelihood loss from droughts. The program is designed to support farmers to develop coping mechanisms by providing them with resources to buffer against the liquidation of productive assets when faced with significant crop loss.

**International Institute of Tropical Agriculture.** In partnership with OFDA since 1999, the Institute's support increased access to and availability of disease-free and mosaic-resistant planting stock, and dissemination of information to farmers to combat the disease in Kenya, Tanzania and Burundi.

**Assistance for Emergency Locust/Grasshopper Abatement.** The program provides technical, material and financial assistance to mitigate and control the damage that emergency transboundary outbreak pests can inflict on livelihoods and economies. Since 1987, OFDA and USAID's Bureau for Africa have supported the program to develop and integrate safer, more affordable, and more effective pest management tools and policies. It works closely with and supports FAO to strengthen national and regional capacities to avert these crises, as well as the disposal of toxic and dangerous obsolete pesticides.

**RANET.** Developed by OFDA, NOAA and NGO partners, RANET provides access to and strengthens the use of hydro-meteorological information by communities in day-to-day decision-making to reduce



vulnerability to natural hazards. Since its inception in 2000, RANET has expanded to 16 African countries with ongoing pilot activities in Asia and the Pacific.

## **2. REGIONAL DISASTER RISK REDUCTION IN SSA**

Regional and sub-regional organizations and countries have made efforts to develop their policies, legislation, plans and agencies for disaster risk management. The following are disaster management players and policies at the regional level.

### **2.1. Disaster Management at the Regional Level**

#### **The Commission of the African Union (AU)**

The Constitutive Act of the African Union (AU) seeks to achieve human security for the peoples of Africa, which includes strengthening resilience to disasters. Thus, the AU and its predecessor, the Organization of African Unity (OAU) have been concerned with the issue of disaster management and have made efforts to promote risk-sensitive development. Its early concern was with reactive emergency relief and response issues under the Special Emergency Assistance Fund (SEAF) for emergency relief and development assistance. The Fund is managed by a Policy Committee of Ambassadors and administered by the African Development Bank (AfDB). SEAF also supported a wide range of interventions aimed at promoting local livelihoods and protection from disasters and other emergencies. The Fund has supported activities such as early warning, small-scale irrigation, food storage, reforestation, post-emergency reintegration, dam construction and maintenance, emergency preparedness and post-disaster reconstruction in about 33 AU states.

The AU has played a key role in providing policy direction and popularizing the DRR approach in Africa. The AU developed, in partnership with NEPAD, UNISDR, UNDP and AfDB, the African Regional Strategy for Disaster Risk Reduction which was approved by AMCEN and favorably received at the 2004 African Union Summit. The summit called for the development of the Programme of Action for the implementation of the strategy. The strategy aims to increase political commitment to DRR, improve identification and assessment of disaster risks, enhance knowledge management for DRR, increase public awareness of DRR, improve governance of DRR institutions, and integrate DRR into emergency response management.

The AU and the same partners produced the Guidelines for Mainstreaming Disaster Risk Assessment in Development. The Guidelines provide: (i) key principles for mainstreaming DRR into development themes and sectors, including poverty reduction, agriculture, environment management, water resource management, land use planning, infrastructure, development, gender issues, HIV/AIDS and other health issues and climate change adaptation; and (ii) key guiding principles and questions on governance and institutional aspects of DRR, including risk identification, knowledge management, risk management applications, integrating disaster risk reduction into development plans, themes and sectors, preparedness and emergency management.

The Programme of Action for the Implementation of the Africa Strategy was endorsed by the Executive Council of the African Union in 2005 and uses the guidelines as a tool. The Programme of Action focuses on activities underlining the strategic directions of the six objectives set by the Africa Regional Strategy on Disaster Risk Reduction. The Plan of Action is for a period of five years and is in line with the five thematic priorities of the HFA. It is to be implemented at the national, sub-regional, and regional levels by the joint efforts of national governments with the support of the international development community.

NEPAD promotes food security, poverty reduction and sustainable development. Current programs developed by NEPAD that directly or indirectly contribute to the reduction of risks from disasters include programs in the environment and agriculture sectors which contain sections on disaster management and entire programs in education, health, regional infrastructure and market access. The Johannesburg Plan of

Implementation of the World Summit for Sustainable Development urged action at all levels to support Africa to deal with the effective management of natural disasters and conflict. Key areas of work are described below.

**Climate Change.** The 8<sup>th</sup> Ordinary Summit of the African Union, held in January 2007, adopted a Decision and Declaration committing member states to develop and implement climate change and adaptation measures for sustainable development. The Decision also endorsed a Climate Change for Development Strategy and Action Plan. Currently the Commission of the African Union, the United Nations Economic Commission for Africa and AfDB in the process of elaborating a Programme of Implementation for the Strategy and Action Plan. It would be necessary to link climate adaptation to DRR.

**Africa Monitoring of the Environment for Sustainable Development (AMESD).** The Commission of the African Union will host the Project Management Unit of AMESD. AMESD is a project of ECOWAS, ECCAS, SADC, IGAD and Indian Ocean Commission (IOC), with funding support from the European Development Fund. The objectives of AMESD are to ensure that Africa is better equipped to receive and apply meteorological information for development related to environment and natural resources, and has the capacity to process data and maintain satellite receiving stations in the region. AMESD will contribute to DRR in Africa as well as enhance climate change adaptation

**The Green Wall for the Saharan Initiative.** The 8<sup>th</sup> Ordinary Session of the African Union Summit of January 2007 also adopted a decision endorsing the Green Wall for the Sahara Initiative which aims to control land degradation, slow the advance of the Sahara Desert, and contribute to poverty reduction. The Initiative is a long-term DRR strategy and a climate change adaptation measure.

## **2.2. Disaster Management at the Sub-Regional Level**

Regional Economic Communities (RECs) have worked to facilitate implementation and coordination of DRR strategies within their sub-regions, particularly in respect of interstate initiatives. These occur through sub-regional DRR platforms and focal points, and through the preparation of programs for resource mobilization to support national and sub-regional efforts.

**Economic Community of West African States (ECOWAS).** ECOWAS is starting to address DRR, focusing on strategy, policy and development of legal frameworks. A Sub-Regional Action Programme to Combat Desertification in West Africa and Chad contains guidelines for desertification control policies, strategies and actions at the sub-regional and national levels. The community has also developed a sub-regional Common Agriculture Policy and a sub-regional program for food security. Using these programs as a base, ECOWAS has developed a sub-regional policy for DRR which was approved by its Summit in February 2007 and is now preparing to develop an implementation program.

**Southern African Development Community (SADC).** Disaster management has been an important component of the overall SADC strategy for regional development. The first SADC Summit recommended the development of a regional disaster management strategy and significant progress has been made in its institutionalization. In 2001, it launched a Sub-Regional Disaster Management Strategy covering food security, climate and environment and water management. Regarding drought and flood, the SADC Water Sector Coordinating Unit has a strategic approach to the management of floods and droughts. The SADC Regional Early Warning Unit develops information on weather threats, drought conditions and food security. The SADC disaster management strategy and its other programs have helped strengthen political commitment and institutional arrangements on disaster management and risk reduction. SADC is currently revising its strategy to further strengthen DRR.

**The Economic Community of Central African States (ECCAS).** Although ECCAS does not have a sub-regional disaster management strategy, it has established a Department of Humanitarian Affairs aimed at emergency response which has been involved in regional DRR. In partnership with UNEP, it has also established a sub-regional centre for DRR and is currently preparing to develop its sub-regional DRR strategy with the support of UNISDR.

**Inter-Governmental Authority on Development (IGAD).** IGAD has developed a regional strategy to strengthen sub-regional disaster preparedness and response capabilities, which incorporate a Regional Programme for Disaster Risk Management. The program aims at disaster mitigation through capacity development and enhancement. Specific objectives include: (i) facilitating the development and effective implementation of policy and legislative frameworks and program interventions among member states; (ii) strengthening community participation in disaster issues; (iii) establishing a sub-regional mechanism; and (iv) promoting international cooperation. IGAD is also planning to facilitate capacity building of national governments for DRR in line with the HFA priorities and has developed a manual for training in DRR with the support of UNISDR.

**Indian Ocean Commission (IOC).** The Commission has requested assistance from UNISDR to develop a sub-regional DRR strategy.

## **3. NATIONAL DISASTER RISK REDUCTION AND MANAGEMENT**

### **3.1. Institutional Frameworks**

National initiatives to develop institutional frameworks have been generally successful in establishing the policies, legislations, plans and agencies for disaster management in SSA, but implementation has not been systematic. Countries such as Cameroon, Ethiopia, Lesotho and Mauritius have all three components in place but not all countries have passed through the full process from the preparation of policy frameworks to development of national plans, programs and operational directives.

#### **3.1.1. Political Commitment**

Leaders have demonstrated political commitment in several ways, including approving regional, sub-regional and national strategies, participating in international DRR forums, such as the World Conference on Disaster Risk Reduction and the First Global Platform, and supporting the observance of national disaster days. In SSA, however, issues concerning development and national security have historically dominated both national and regional security agendas, with disaster management and risk reduction as less prominent priorities. Despite the limited profile given to disaster management in the region, the protection of national and regional food security is becoming a key priority for countries. Responsive governance has prioritized developmental initiatives that build local resilience to expected threats, so that a “hazard event” no longer becomes a disaster, and transfers “residual risk” to external partners.

#### **3.1.2. Policy Framework**

Reflecting on the variety of national circumstances, the comprehensiveness of disaster management policies varies in Africa. At one end of the range are the policy statements of countries such as Zambia and Malawi that contain more narrow disaster management agency-focused concerns. The latter situation has arisen because, based on standard practice, the responsibility for coordinating implementation of the national disaster management plans is given to a lead organization. Consequently, national policies tend to focus on prescriptions for the functions, management and related institutional issues of the national disaster management organization.

From the sample, Botswana, Ethiopia, Lesotho, Mozambique, Namibia, Rwanda, Tanzania and Zambia reported having comprehensive national policies. Four countries, Kenya, Nigeria, Seychelles and Zimbabwe had draft policies, while Eritrea, Malawi, and Sierra Leone did not have national disaster management policies in place. Some countries, such as Malawi and Gambia, have policies relating to disasters from specific hazards but are yet to develop comprehensive policy frameworks that address risks from multiple hazards with cross-sectoral interventions.

At the other end are the policy frameworks of countries such as Uganda and Ethiopia that contain a very broad specification of policy objectives and strategies for cross-sectoral interventions and integrated development for DRR. These cases represent comprehensive policies that establish an integrated and multi-sectoral approach to disaster management by providing: (i) a broad policy framework to harmonize sectoral and cross-sectoral policy objectives; (ii) guiding principles and strategies in several key cross-sectoral themes identified as essential for effective disaster management; and (iii) guidelines for various stakeholders involved in disaster management.

The development of national disaster risk management policies has neither been an expeditious or simple process. For example, countries, such as Kenya, are yet to finalize and approve policies that have been in draft for several years. It can be expected therefore that the process for reviewing and updating national

policies would be similarly complex. No country indicated the existence of a process for developing, coordinating and continuously improving DRR policies and strategies.

### **Structure of Plans**

Since risk management covers problem identification, analysis, decision-making, implementation of optimal options and performance assessment, it is important that disaster risk management plans follow conventional formats or structures. Conventionally, management plans consist of: objectives, resources, activities, responsibilities, timeframe, risks, and, monitoring and evaluation. However, the structures of disaster management plans of most countries have not followed this format consistently. For example, specific time-bound or target-related activities and monitoring and evaluation provisions have not been covered in nearly all the plans reviewed. South Africa's disaster management legislation, however, required national and provincial authorities to follow a standard approach to developing their disaster management plans. In general, the inadequate quality of national disaster management plans is one of the weaknesses of country institutional frameworks that need to be addressed.

### **Policy Coverage**

National authorities in SSA recognize the need to develop the policy framework required to build resilience to hazards. Reflecting on the variety of country inputs, an assessment was made of the extent to which policy statements of key institutions referred to the importance of disasters and vulnerability and their commitment to the mitigation of risks in documents such as mission statements and policy documents.

The basic requirement for a policy framework that seeks to reduce disasters is that it should specify disaster reduction as a priority. Not all policy frameworks in Africa specify DRR as a mode of operation since several merely espouse it but focus more on response mechanisms. For example, the national policy of Namibia emphasized preparedness and response with recovery being the responsibility of national development planning. The slow progress toward a policy focus on DRR is due to institutional legacies and lack of knowledge on how to transition from reactive response to proactive risk reduction, although there is momentum to reorient policy frameworks in some countries, including Mozambique, Kenya, Seychelles and Namibia.

To be effective, the main strategic orientation of disaster policies needs to focus on strengthening positive links between disaster reduction and development policies and planning. National policies should recognize disaster management as a development activity aimed at protecting the development process itself. Therefore, they should require that development projects be assessed for disaster impact and disaster reduction strategies be built into the development process. The policies of a few countries, such as Botswana and Mozambique, explicitly contain this strategic goal. Kenya's draft policy and Uganda's current policy provide guidance on mainstreaming DRR in development planning and project implementation.

Another set of countries such as Uganda and Senegal contained a very broad specification of policy objectives and strategies for cross-sectoral interventions and integrated DRR development. Uganda provides an example of good practice in formulating comprehensive policies for disaster risk management. Its Disaster Preparedness and Management Policy has established an integrated and multi-sectoral approach to disaster management by providing a broad framework for the harmonization of sectoral and cross-sectoral policy objectives. It sets out guiding principles and strategies in key cross-sectoral themes, and provides guidelines for stakeholders involved in disaster management.

The next key strategic orientation of national policies for disaster reduction is the systematic incorporation of risk reduction approaches into implementation of emergency preparedness, response and recovery

programs. Many national policy frameworks either still focus on response as the main means of addressing disasters or provide weak linkages between risk reduction and preparedness and response.

Regarding coverage of hazards in national disaster management plans, the majority appear to be comprehensive in addressing multiple hazards. Governments explicitly make the very strong and realistic link between natural disasters and conflict-related emergencies in conceptualizing and formulating their disaster management policies and programs. Hence, few national plans focus only on natural disasters.

These approaches reflect the institutional characteristics of the national disaster management systems in a particular country. The approach represented by the Ghana national disaster management plan is useful for institutionalizing the basic practice of disaster management within a country, but it is less suitable in situations where the emphasis is on integrated disaster risk management. In these situations, the examples of Namibia and Ethiopia may be more applicable.

### **3.1.3. Legislation**

The obligation to protect human security is laid down in civil protection or disaster management legislation. Countries are at varied stages in the development of legislative frameworks for DRR, but all countries have some legislation covering issues relating to disaster management. From among the sample countries, some such as Ethiopia, Lesotho, Malawi, and Nigeria have disaster management legislation in place. Kenya, Mozambique and Zambia are in the process of drafting legislation while Botswana, Eritrea, Namibia, Rwanda and Sierra Leone do not have national DRR legislation. In Lesotho, for example, the Disaster Management Act of 1997 is in place but regulations governing the Act have not yet been developed.

There appears to be two extremes in specifying the contours of national frameworks for disaster management within national legislations in Africa. At one end is the prescriptive model exemplified in the case of Uganda's policy statement that provides detailed stipulations regarding the objectives, guiding principles and strategies for key stakeholders and inter-sectoral relationships. At the other extreme is the National Disaster Bill of South Africa that only provides principles for relevant organs of state to produce their own disaster management frameworks. The South Africa situation appears to provide wider latitude for disaster management authorities to determine the specifics of the strategies they adopt to interact with other stakeholders. However, the Uganda case is not as restrictive as it may seem because the policy merely provides strategic guidance. Thus, both approaches are complementary and can provide some direction for countries that do not have legislation in place and may need to develop it.

According to the results of the review, there were four major issues related to legislation on disaster management. First, most of the existing legislation mainly covers disaster response and emergency management. For example, Tanzania's legislation deals with relief only and those of Namibia and Zimbabwe are civil protection laws. Thus, the first major challenge is the extent to which DRR strategies and policies are understood and adequately covered in existing legislation. Policies and strategies for implementing DRR need to drive the legislative process, and should therefore be considered when developing legal frameworks. This helps to ensure that planned policy, strategy and program interventions, including resources, have the requisite legislative authority and that those responsible for implementing them buy into the provisions of the legislation.

Second, the legislation is scattered over too many pieces of law in different sectors. For example, in Cameroon over 13 statutes and decrees are in place with respect to disaster management. The third challenge relates to the quality of DRR legislation where it exists. For almost all the countries, legislation in place refers mainly to the establishment of national disaster management organizations, determining when to call for emergencies and how to manage them. Thus, existing legislation does not provide clear

responsibilities, entitlements, sanctions and remedies in connection with DRR actions by different actors and various levels. Fourth, the legislations reviewed lacked benchmarks for action and procedures for evaluating DRR actions. They also lacked provisions for coordinated implementation across sectors and location, and systems for feedback and evidence-based monitoring.

Finally, most of the legislation relating to the management of disasters emerged from pre-dating civil protection laws. For example, the civil protection Acts of Namibia and Zimbabwe date to 1987 and 1989, respectively, while the disaster reduction policy of Ethiopia was developed in 1993. Some of these old laws may need to be reformulated to incorporate recent developments in DRR. In particular there is the need to transform civil protection acts into disaster reduction legislation. Namibia, for example, has a civil protection act oriented toward DRR.

All countries stated the existence of sector laws that help DRR but only a few, such as Kenya, listed some of them. In Kenya, various Acts of Parliament mention DRR (such as the Water Act, the Environmental Management and Coordination Act, and the Kenya Red Cross Society Act but their provisions are still disjointed and will need a central coordinating point which the proposed National Disaster Management Agency under the draft policy should provide.

Land use legislation is part of a broad range of measures to reduce hazard losses by shaping the vulnerability of people to hazards and by guiding development help prevent or reduce hazards. None of the countries listed any holistic DRR legal frameworks, for example, to include urban and regional plans, building codes and by-laws and their enforcement to protect against natural hazards. It is possible that the laws and codes were not included in the questionnaire responses because they are viewed by countries as sectoral strategies, rather than as integral components of comprehensive DRR. Nonetheless, countries have in place such legislation in various stages of completion and enforcement.

The order of enacting legislation or developing policies and plans does not appear to have a bearing on how fast a country is able to implement a DRR program. Ethiopia established the policy and plan first before enacting the legislation. This appears to be a good order as the policy then informs legislation. However, for various reasons, including political, a country may choose to delay the enactment of DRR legislation, particularly relating to the granting of powers to declare emergencies. Rwanda for example followed the same path as Ethiopia and developed a policy and a plan but has not been able to enact legislation. In contrast, Malawi enacted legislation in 1991 but has not developed a plan. Nigeria has legislation and a national response plan but does not have a policy or disaster management plan. Mozambique, like Malawi, has a Master Plan for DRR and has integrated DRR in the PRSP but is yet to approve a 2001 draft Disaster Management Bill.

### **3.1.4. Planning**

Despite the general focus on response and relief, few countries (such as Nigeria and Ethiopia) have developed national contingency and evacuation plans. A few have sector plans (such as for flood response in Malawi) or plans for specific infrastructure (such as for schools in Seychelles), while Mozambique develops annual national and local plans. Tanzania has operating guidelines to support stakeholders to initiate their own plans to be put in force when disaster strikes.

Contingency/response plans face several constraints and challenges. First, the quality varies in terms of coverage of key response interventions, scope of national and hazard coverage, integration of sectoral contingency plans, coordination of various role players in emergencies, and incorporation of risk-reducing practices in relief assistance. Second, simulation pays off in enhancing response, but countries are unable to rehearse contingency plans. Third, several countries, including Benin, Ghana, Guinea, Guinea Bissau, Mali, Mauritania, Niger, Swaziland and Togo have completed Inter-Agency Contingency Plans with OCHA,



UNHCR, UNICEF and other agencies of the UN system to coordinate international and national response efforts, but the institutional and physical infrastructure for emergency management remains limited. For example, most countries lack central facilities for coordination, command and control of responses to emergencies. Fourth, the integration of early warning into emergency management planning is limited. Fifth, disaster management information systems do not adequately distinguish between localized crises and acute emergency situations.

Sixth, although development partners who provide humanitarian assistance in times of disasters are increasingly focusing on long-term development, the ability of SSA countries to adequately finance disaster response requirements is limited. Seventh, emergency assistance continues to face some problems, including logistical capacity, targeting of commodity assistance and distribution, and striking the appropriate balance between food and non-food assistance.

### **3.1.5. Institutional Setup**

**National Disaster Management Organizations (NDMOs)** Nearly all countries have institutional structures generally responsible for the day-to-day operation of disaster management, including central planning, coordination and monitoring. NDMOs are located at various levels within national governments in Africa, ranging from the Office of the President/Prime Minister for the majority of countries, to statutory establishments or departmental agencies under ministries and autonomous statutory bodies. The earliest established institutional structure for DRR was that of Ethiopia in 1995. Most African countries espouse decentralized implementation of DRR interventions but the devolution of responsibilities, authority and competencies, including resources, to lower administrative levels is limited.

The majority of NDMOs face challenges in terms of organizational capacity, and human and financial resources, but the variety of good practices presented in this report and steps to strengthen NDMO capacities suggest there are efforts underway to address some of these constraints. Donors provide the bulk of financial resources for DRR but there are some cases where efforts are being made to diversify funding sources, including contributions from farmers and agro-businesses in Namibia, private sector risk diversification and management tools in South Africa, mandatory national funding in Nigeria and pilot index-based weather insurance schemes in Ethiopia and Malawi.

The location of an NDMO within the administrative structure of government can be a powerful indicator of government commitment. Locations include the office of the President/Prime Minister which is the traditional coordination and supervision institutions for the majority of countries (Kenya, Namibia, Botswana, Lesotho, Nigeria, Seychelles, Uganda, Tanzania and Zambia). Some are housed within statutory establishments or departmental agencies under ministries, the most common being Ministries of Interior (Burundi, Cape Verde, Democratic Republic of Congo, Ghana and Liberia), because most countries regard disaster management as an issue of national security. Other supervising ministries include: Defense (Cote d'Ivoire and Comoros), Social Affairs (Gabon), Labour, Manpower and Social Welfare (Zimbabwe), Foreign Affairs (Mozambique), and Local Government (South Africa). Other countries house DRR activities in different departments such as the Office of National Security (Sierra Leone), autonomous statutory bodies (Ethiopia and Lesotho), Civil Protection Department (Zimbabwe and Senegal), and units with no formal structures on the ground (Zambia). Gabon was the only country in the sample with a specific DRR ministry. There are no clear advantages in terms of where to locate NDMOs, except that the stronger and more politically powerful the supervising ministry (e.g., Office of the President), the easier it is likely to be for the NDMO to coordinate disaster management across ministries and agencies.

**Scope and coverage of national platforms** UNISDR Nairobi reports that 25 countries in SSA have national platforms, which attempt to ensure participation by public and private sectors and civil society. As national platforms are relatively recent, it is not yet possible to judge the extent to which multi-stakeholder

participation will be sustained or whether they are effectively coordinated across sectors and disciplines. Of countries in the sample with national platforms, the Nigeria and Kenya platforms seem to be most active, based on the regularity of meetings and the scope and number of planned or ongoing activities.

A national focal point for DRR chairs the national platform and links the national DRR program with the international community and other national collaborating partners. The officer in charge of the NDMO in each country invariably acts as national focal point, and in most countries NDMOs serve as the secretariat for the national platform. Kenya, however, has established a National Secretariat with dedicated staff to administer its National Platform. Membership of national platforms includes representatives of government agencies and ministries involved in or related to disaster reduction, technical institutions, civil society organizations, UN agencies and other development partners. Countries with national platforms are engaged in promoting DRR policies, plans or legal frameworks, popularizing the DRR concept, conducting vulnerability and risk assessments, and the establishment of early warning systems.

### **3.1.6. Partnership**

Integrating disaster management in development processes is a collaborative effort that depends on the participation of a wide range of actors. Most national disaster programs in Africa recognize the key roles of non-state entities and communities in disaster management. Consequently, the policy frameworks of countries, such as Ethiopia, Lesotho, Uganda and South Africa, emphasize participatory and decentralized planning and implementation as central to their disaster management strategies and specify roles for non-state entities. For example, in the case of Uganda, the Disaster Preparedness and Management Policy contains objectives, guiding principles and strategies for humanitarian agencies, donors, the private sector, and civil society involved in disaster management. In the cases of Lesotho and South Africa, panels that advise the highest authority on disaster management include non-governmental and private sector representatives. In Namibia, the private sector is to contribute directly to the National Drought Fund through agriculture-related levies.

Despite recent progress, disaster management interventions remain very top-down, whereby outside local and foreign experts design programs for communities to implement. Often citizens are merely recipients of disaster management activity outputs, largely relief delivery by government and other internal and external donors. Consequently, their participation in designing those programs is invariably very limited and muted. Government remains a key player in disaster management but good governance requires that the state facilitate, not dominate, the sharing of decision-making power among all stakeholders in disaster management.

Despite the growing awareness of the role of non-governmental entities, most national disaster management policy frameworks still rely on command and control instead of self-consent and appeal to personal interests in disaster management. The concept of rights-based development is yet to permeate thinking of national policymakers regarding ensuring people's right to safety and protection from disasters. Also, disaster programs are seen as a moral obligation and are therefore very rarely or only perfunctorily debated in national legislatures with the result that legislatures in SSA have a limited role in DRR.

Most SSA countries espouse decentralized implementation of DRR. All country set-ups had provincial structures and most countries designate disaster management structures at district levels but only a few (Lesotho, Malawi and Namibia) have village level structures. However, delegation of authority to assess and reduce risks, devolution of responsibilities, authority and competencies, including resources, to lower administrative levels has been limited in practice. This is partly because most DRR systems are agency-centered and top-down, have inadequate competencies and resources to fulfill decentralized responsibilities, and lack adequate partnerships with communities.

While all institutions are focused on post-disaster incident management, there is little provision for proactive risk assessment responsibility by governmental authorities and no mention of budgetary provisions and rules which enable allocation of government funds for risk mitigation.

With a few exceptions, a weakness of operational structures for disaster risk is the lack of attention to developing volunteerism as a critical tool for risk reduction and emergency management. Volunteers are persons and institutions that choose to assist in providing disaster management services, are registered in a volunteers' registry and trained to be part of emergency management teams at the local level. This gap is likely due to lack of knowledge or recognition of the potential role that volunteers can play in risk management. Legal frameworks need to cover developing the capacity, command structures, activation and deployment, indemnity, and compensation for volunteers. There are, however, signs that some countries are becoming aware of the advantages of involving volunteers in disaster management strategies. From the sample, only Lesotho reported volunteers as part of the structure for disaster risk management. Volunteerism is starting to be promoted in countries such as Ghana and Mozambique, and in some instances community involvement is being encouraged in risk identification, such as for volcano early warning in the Democratic Republic of Congo.

### **3.1.7. Financing**

It is difficult to obtain precise information on the financing of disaster management mechanisms but what evidence there is suggests that disaster management structures in SSA suffer from inadequate financial support. This is the result of many factors including the low priority accorded to disaster reduction in national budgeting, lack of dedicated disaster funding mechanisms, low availability of contingency financing in times of disaster, and the limited role of local authorities and communities in financing disaster management institutions.

Most national disaster reduction authorities make provisions for financing national disaster management plans but the approaches vary, reflecting the different national circumstances in the region. These range from mere indications of the intention to finance the disaster management system, through legislative earmarking of funding, to disaster funds to be financed from a variety of sources.

In terms of financing for relief, some countries, such as Mauritius, Botswana, Ethiopia, Namibia, Mozambique and Nigeria appear to be better endowed financially, including through special funds. Some countries such as Botswana, Ethiopia, Nigeria and Tanzania have operating funds for relief but most countries finance relief from general sources (such as donor funds and regular government budgets). In contrast there are no standing mitigation funds which can be applied across development spending activities.

Donors provide the bulk of financial resources for disaster management systems. For example, in Ethiopia, the National Disaster Prevention and Preparedness Fund relies significantly on donor funding. In Mozambique, donors are contributing to disaster management financing, but this has not been the case in other countries. National resources predominate in most countries in the sample. In Namibia, the National Drought Fund relies significantly on contributions from farmers and agriculture-related industries. Nigeria is an exception in that the National Emergency Management Authority was to seek financing for the Relief Fund from various sources, including allocation of 20 percent of the Federal Ecological Fund, but the status of the latter contribution is unclear.

## **3.2. Emphasis on Proactive Approach to Disaster Risk Reduction**

Disaster management in the SSA region had, up to now, largely been viewed as an event-driven field focused on preparedness and response to emergencies rather than a process-oriented discipline linked to

development. There has been greater institutional clarity in the region on responsibilities of national, provincial, and municipal disaster management authorities for preparedness and response activities but less clarity on the organizational responsibilities for ongoing mitigation and risk reduction initiatives.

DRR practices in SSA first focused on trying to reduce the impact of disasters on development through emergency management. The implementation of DRR functions requires budgetary and programmatic shifts in the core functions of line departments that are not funded by humanitarian appeal resources. Such activities are sometimes viewed as non-core extras by line departments. This has sometimes resulted in the apportioning of DRR to disaster management structures which themselves have little authority or influence over the line functions, programs and budget allocations that influence patterns of social and environmental vulnerability. An emerging approach is to transform response management into DRR which involves vulnerability assessments, changes in institutional frameworks, inclusion of risk reduction initiatives at the community level, introduction of innovative approaches in emergency response and DRR public awareness efforts.

### **3.2.1. Coverage of Large Versus Localized Disasters**

A major implication of adopting the risk management approach is the need to pay attention to small, recurrent and localized disasters as well as the more conventional large infrequent disasters. Hence, risk management also requires addressing local risks and emergencies, but this focus was not evident in the majority of policy frameworks reviewed as most of them only referred to large and high-impact disasters. In contrast, the policy statements of a small number of countries such as Madagascar, offer good examples of national systems that explicitly include small localized disasters in their policy frameworks.

### **3.2.2. Coping Strategies**

Local communities in SSA understand the threats they face and have evolved varied risk management and coping strategies to sustain their livelihoods, particularly when disaster management policies fail or do not exist. Most of these coping strategies are not fully adequate as they do not entirely protect or restore livelihoods affected by disasters. Nonetheless, given the importance of these coping strategies for managing livelihood risks, it is important that disaster management policies and programs safeguard and strengthen them. National policies and plans for disaster management in SSA have not explicitly focused on the need to strengthen traditional coping strategies, nor do they emphasize preservation of the local and traditional knowledge and experience that underlie these survival mechanisms. By emphasizing community-based risk management interventions, national disaster management systems can play a role in strengthening livelihood and coping mechanisms at the local level.

## **3.3. Knowledge**

DRR comprises a series of actions that require the involvement of communities and various stakeholders and partners. Information and communication management play a crucial role in this process. There are significant knowledge gaps in the management of DRR in SSA, especially inadequate attention to information management and communications, public awareness, and training and research. There are large gaps on disaster risks, best practices, and institutions and networks of practitioners, including insufficient disaster data.

### **3.3.1. Risk and Vulnerability Assessment**

Risk reduction starts with risk identification and assessment. Although it is not a new practice in SSA, risk identification has been limited, with few countries carrying out systematic hazard analysis and some

countries such as Eritrea, Ethiopia, and Nigeria reporting partial assessments. The emerging practice of risk assessment in Africa originated from formal early warning systems that started in West Africa during the early 1980s in response to the droughts and famines of the 1970s. These early efforts were based on decisions linking food insecurity to meteorological trends based on agro-meteorological evaluation models of crop yields. Similar efforts in IGAD and Southern Africa have emphasized assessments of food insecurity.

Each of the major sub-regional groupings in Africa have developed early warning systems, covering food security, drought and climatic factors, with more developed systems to assess food insecurity risks. Drought assessments and warning systems are often integrated with climate and weather warnings mainly because most of the drought forecasting systems focus on climatological drought prediction. Desertification monitoring systems are only now being developed under the ambit of National Action Plans produced under the UNCCD. Major hazard warning systems that have provided the platform for risk assessment in Africa are: the Famine Early Warning System Information Network of USAID, Food Insecurity and Vulnerability Information and Mapping Systems of FAO, Vulnerability Analysis and Mapping system of WFP, and Global Information and Early Warning System on Food and Agriculture of FAO.

Accurate, comparable and appropriately scaled information on disaster losses, hazards, vulnerabilities and risks is fundamental for designing and implementing DRR policies and programs, but risk assessment capacity in SSA is generally weak. Data collection on hazards and impacts, where it exists, is ad hoc and informal. Land-use capability maps exist in several countries but they do not indicate the riskiness of livelihoods from occurrence of natural hazards. Few countries undertake systematic hazard analysis in the form of mapping, and most of the physical mapping of hazards undertaken has been top-down processes with little participation of communities.

In the context of the Global Risk Identification Programme (GRIP), several stakeholders from research, insurance, emergency response, public outreach and operational hazard monitoring and risk management, are working together to improve capacities at the national and regional levels for risk assessment methodologies and their use. GRIP will expand and improve the evidence base on disaster-related losses, historical loss data, and promote the systematic organization of loss data into databases. GRIP will also assist in linking risk assessment results to decision processes.

Most disaster risk assessments rarely involve community participation. In contrast, experience with some types of vulnerability analyses and assessments in SSA, although based mainly on food security considerations, have involved some degree of community participation. Examples of country experiences with vulnerability and capacity assessment are presented in Annex 3. There has been virtually no work done on aspects of decision analysis related to subjective risk estimation and its incorporation in decision-making modeling.

Two examples illustrate the typical outcomes from the types of vulnerability assessments prevalent in SSA. In Tanzania, household hazard data for each zone were estimated to obtain a generalized occurrence of hazards in each zone. The generalized zone data was then used to produce hazard maps for the three most common hazards, and a National Vulnerability Index was developed based on the hazard assessment, risk assessment and manageability capacities. The Index was used to determine the vulnerability to different hazards and the result for the most frequent hazards (droughts, disease outbreak, and pests) was presented in terms of agro-ecological zones. In Ethiopia, areas where flood hazard is frequent, and impacts communities and their livelihoods, are identified at national level by analyzing historical records

### **3.3.2. Education**

DRR is generally not a part of the educational system curriculum as a separate discipline, although some national institutions have developed training in certain areas. These training activities are often too costly for national authorities to engage in, while others simply focus on emergency management.

### **3.4. Implementation**

Information on specific projects and their implementation was generally inadequate, although some projects were identified from the World Bank list of DRR projects. Malawi appeared most active in terms of World Bank-financed DRR projects while Nigeria listed the highest number of planned projects by its National Platform.

#### **3.4.1. Insurance and Finance**

One way of financing disaster management is through risk transfer instruments such as insurance, reinsurance, private and government risk pools, and catastrophe options. The country questionnaires included little information on the financing of disaster management mechanisms. Risk transfer mechanisms tend to be more prevalent in more developed countries, but some schemes are beginning to emerge in SSA. Insurance projects are used to manage risks in Namibia and other areas of Africa where large-scale agriculture is prevalent. Index-based weather insurance schemes are being piloted in Ethiopia and Malawi which are expected to demonstrate the viability of insuring extreme risks (drought) and enhance access to finance by farmers. Mozambique's strategy also encourages people to adopt risk insurance mechanisms and other preventive or mutual assistance instruments, while Namibia's National Drought Policy and Strategy promotes on-farm risk management.

#### **3.4.2. Poverty Reduction**

Incorporating disaster reduction policy into national development policy is a key action to mainstream disaster management. An increasing number of PRSPs recognize the links between disaster and poverty and the role of hazards and related vulnerabilities in determining the nature and pace of socio-economic development. However, few countries have explicitly linked disaster reduction to their PRSP frameworks. Some countries, such as Ghana, Madagascar, Ethiopia, and Mozambique, have included disaster reduction as specific areas of their PRSPs. Another set of countries, Senegal, Ghana, and Malawi have also factored DRR into their PRSPs mostly as stand-alone initiatives to strengthen warning systems, disaster response capabilities, target relief, and recovery assistance, and provide post-disaster safety nets to vulnerable or affected communities; as was the case with the floods in Malawi. Other countries, such as Malawi and Mozambique also include provisions to strengthen the agriculture base of the economy and generally improve employment opportunities as a means of reducing livelihood risks. However, none of the PRSPs have included DRR in a holistic manner nor identified it as a key priority.

In addition to the PRSP, there are examples of disaster risk management being incorporated in United Nations Development Assistance Frameworks in countries such as Rwanda and Djibouti, while some (Ethiopia and Malawi) incorporated DRR in other national plans. Zambia links the 5<sup>th</sup> National Development Plan and district vulnerability profiles by stating that the district vulnerability profiles will be the instruments for implementation of the 5<sup>th</sup> National Development Plan.

Often, countries that have integrated DRR in their development frameworks do so only at the level of policies or strategies. The result is that DRR institutions are separated or isolated from mainstream development institutions. For effective mainstreaming, DRR concerns have to be integrated at the policy

and the institutional levels, which is more likely to ensure appropriate institutional and financial resource allocations for both DRR and the development instruments into which it is integrated. Malawi provided the only example of integrating DRR into poverty planning, especially since the Department of Poverty and Disaster Management Affairs coordinates the management of both poverty and disasters.

### **3.4.3. Sectoral Coordination**

A nation's disaster policy comprises the totality of sectoral and cross-cutting policies that promote safety from disasters. Hence to be comprehensive, a national disaster reduction policy needs to be linked to relevant development plans. Some national disaster management frameworks have clearly articulated the integration of disaster reduction in national development processes as an objective. The extent to which national DRR policies can promote inter-sectoral cooperation, harmonization and coherence is key to effective disaster mitigation.

### **3.4.4. Integration into Emergency Response**

Integrating DRR in response preparedness is an effective way to reduce the impact of disasters, which requires increased interaction between emergency managers and development practitioners. Increasingly innovative approaches to emergency response are emerging, including cash-for relief, instead of food and small-scale water harvesting. Another approach involves integrating food, health and functional education programs to facilitate the linking of relief to development.

## 4. BEST PRACTICES IN THE SSA REGION

This section provides examples of good practices in DRR reduction in the region. The examples cover a broad range of activities in line with HFA priorities.

### 4.1. Emergency Food Security Reserve Management in Ethiopia

*HFA Priority: Strengthening Disaster Preparedness for Effective Response<sup>10</sup>*

In Ethiopia, the Government has taken steps to reduce the impact of food crises. With a chronic food deficiency and extreme vulnerability to climatic variations that give rise to droughts, flooding and pest outbreaks, the Government decided to maintain a food buffer stock to ease the suffering of people during the initial stage of a food crisis. It is estimated that food aid imports take at least four months to reach affected populations and it was thus envisaged that the reserve would cover the food gap during the initial four months of an emergency. The project started in 1982 with support from FAO, WFP and CIDA.

The project was later transformed into the present semi-autonomous body called the Emergency Food Security Reserve Administration in 1993. It is managed by a Board of Directors composed of senior ministers. A strong multi-agency technical committee provides technical advice and recommendations on the amount of food to be drawn. The relevant government departments are permanent members of the committee, and two donors serve on a rotational basis. The reserve has become an integral part of the country's disaster management policy.

In the beginning, a short-term target of 205,000MT was set to feed 4.2 million people for four months at the rate of 400gm/day/person (survival ration) of food grain per day per person. The mid-term target was to reach 307,000MT to feed the same 4.2 million people for four months at the rate of 600 gm/day/person. The project is supported by a number of donors and maintains 407,000MT of food grain stored in seven strategic locations. This target could feed about 6.8 million people for four months at the rate of 15kg/month/person.

The project has successfully achieved its objectives, serving all agencies engaged in relief food distribution (government, UN and donor agencies, NGOs) and is an excellent example of disaster prevention. The Report of a multi-disciplinary and independent external evaluation team (headed by a former UNDP Resident Representative and UN Country Coordinator) stated: "The Emergency Food Security Reserve Administration (EFSRA) has played an indispensable role in the emergency crisis of the past few years by making grain available for immediate dispatch to DPPC and NGOs once repayment is guaranteed by donors or government. This facility has operated with remarkable efficiency in the past two years. It has gained donors' confidence because it is independent and professionally managed with donor and UN representation on the technical committee. Its operations provide an excellent model for other African countries".

### 4.2. Drought Mitigation Strategies in Mozambique

*HFA Priority: Reducing Underlying Risks A. F. <sup>11</sup>*

The Government of Mozambique, through the Ministry of Agriculture and Rural Development has developed a two-fold strategy to reduce the impact of droughts which includes: (i) introduction of drought tolerant crops; and (ii) intensive use of wetlands for food production in drought-affected areas.

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<sup>10</sup> Ethiopia WCDR Country Report, World Conference on Disaster

<sup>11</sup> Mozambique WCDR Country Report, World Conference on Disaster, 2005



For the development of drought tolerant crops, research was undertaken on the variety of crops that do not require high amounts of moisture (i.e., cassava and sweet potatoes) and areas where they can easily adapt to local soil conditions. Extension service workers established multiplication plots of vegetative materials, which were then distributed to farmers in drought-affected areas. This experience has been replicated in many drought-prone areas and farmers are now responsible for establishing multiplication plots for further distribution and sale of vegetative materials to other areas.

Wetlands were also used for food production. Farmers living in drought-stricken areas received training and technical support from extension services and community-based organizations to change their agricultural practices. Plots of land were distributed to farmers in low-lying areas so that they could maintain production during drought conditions. Farmers have also been encouraged to reduce dependence on rainwater through the supply of appropriate agricultural supplies such as pedestal and other irrigation pumps and trained on irrigation techniques and maintenance of pumps.

### **4.3. Effective Flood Management in Mozambique**

*HFA Priority: Reducing Underlying Risks*

The weather forecast for the 1999/2000 rainy season indicated normal to above normal rains in central and southern Mozambique and below normal rains in the north. Based on these predictions, the Technical Council for Disaster Management started to work on possible scenarios during the season, namely floods and cyclones. The Council prepared and submitted to the Coordinating Council for Disaster Management a contingency plan for the rainy season that included: identification of areas likely to be affected by floods and/or cyclones and estimates of populations at risk; identification of safe areas for temporary shelter and resettlement of people to be evacuated from at-risk areas; mobilization of search-and-rescue capacity in areas likely to be affected by floods; estimation of food and non-food requirements for affected populations; pre-positioning of relief supplies for a three-month period in areas likely to be affected or isolated; dissemination of hydro-meteorological updates to central, provincial and district authorities and local communities in order to take precautionary measures; and dissemination of warnings on eminent floods and actions needed to protect lives and property.

During December 1999 to March 2000, heavy rains were reported in southern Mozambique and upstream in Botswana, Zimbabwe and South Africa, resulting in floods in many river basins across central and southern Mozambique. In addition, central and southern Mozambique was hit by cyclones Connie, Eline, Gloria and Huddah, which brought more rains. The Government took the following actions: search and rescue of people stranded in isolated areas using aircrafts, boats and trucks with international assistance; establishment of temporary shelters for the thousands of homeless and evacuees; provision of humanitarian emergency relief, including food and non-food items in more than 100 temporary accommodation centers in a radius of more than 1,000 km in five provinces; monitoring of conditions in accommodation camps to prevent the outbreak of diseases; provision of water purification equipment, sanitation and medical assistance in the camps; and preparation of humanitarian emergency appeals.

The following actions were taken after the floods: identification of safe areas for resettlement of displaced people and other people living in areas at risk of floods; support to the resettlement process through provision of building materials and kitchen sets; distribution of seeds and tools to displaced and affected populations so they could resume agricultural activities; preparation of a post-disaster reconstruction plan; mapping of flood-prone areas and resettlement of vulnerable populations; and rehabilitation of damaged infrastructure.

Although the floods strained the Government's capacity, the establishment of a contingency plan proved to be vital in allowing the Government to act quickly in the wake of the floods. In addition, populations relocated to new areas are safer and better aware of the effects of floods. As a result of this experience, the

2001 floods in the Zambezi basin, which affected a wider area, had negligible effects on loss of lives and damage to infrastructure.

#### **4.4. Awareness Creation and Public Information Dissemination in Tanzania**

*HFA Priority: Building a Culture of Resilience to Disasters through Awareness, Education and Training*

The Department for Disaster Management in Tanzania supports training programs for Chief Executives (Permanent Secretaries, Regional Administrative Secretaries), politicians (Regional Commissioners, District Commissioners, Councilors and Members of Parliament), which are basically awareness courses on disaster management. In terms of information dissemination, there are weekly programs aired through national media, which are prepared and conducted jointly by one Official (Information Officer) and a disaster focal point from a media institution, targeting ordinary urban and rural people.

#### **4.5. Integrating Early Warning into Public Policy Cyclone Warning in Mauritius**

*HFA Priority: Identifying, Assessing and Monitoring Risk and Enhancing Early Warning*

On February 28, 1960, Mauritius was hit by cyclone Carol with a central pressure of about 943 millibars and a maximum sustained wind speed of about 297 km/hr, the most violent cyclone ever registered in Mauritius. It resulted in 41 deaths, destroyed more than 40,000 homes and damaged hundreds of others, rendered homeless more than 100,000 people, damaged most sugar factories and destroyed 60 percent of plantations. This cyclone marked a new era in the history of cyclone disaster prevention and preparedness in Mauritius. The Government decided to replace the old colonial-style architecture with concrete infrastructure, including building cyclone-proof and affordable housing estates (*cités*). Building of *cités* has been the most effective disaster prevention measure adopted in Mauritius. In addition, the Meteorological Department introduced different warning levels signaled by a corresponding number of red flags hoisted over public buildings, and adopted the practice of issuing regular radio and TV cyclone warning bulletins in all local languages.

As a result of these efforts, casualties and damages were significantly reduced when cyclone Gervaise (with a central pressure of 980.9 millibars and wind speeds exceeding 280 km/hr) struck on February 5, 1975: 9 deaths, 59 wounded, 11,320 houses damaged and 1,500 people made homeless. Other contributory factors were that most families could afford a transistor radio and were able to heed Government warnings, and major improvements in the technology used by the meteorological services.

By the time cyclone Hollanda (with central pressure of about 984.0 millibars and wind speeds exceeding 216 km/hr) hit in 1994, better human and material resources, combined with strong political commitment had made the Mauritius Meteorological Services one of the most modern in SSA. Only two persons were reported dead and 1,084 people sought refuge in 34 centers. Tropical warnings are now tracked through satellites, weather radars and the use of traditional weather chart analysis. Cyclone Dina (as strong as Carol and Gervaise) caused only three deaths (two of them due to road accidents) while the most damage was in agriculture rather than infrastructure.

This case shows good practice in improving the communication sub-system of early warning by simplifying warning messages through the use of simple visual signals and electronic media to diffuse awareness of hazard risk and warning information. In addition, it illustrates the integration of early warning into public policy in several ways, including: development of the early warning system as part of a comprehensive cyclone disaster management strategy, application of early warning knowledge to reduce risks through modification of building and infrastructure technology, and development and enforcement of cyclone-resistant building codes.

#### **4.6. Community Preparedness for Volcanic Eruptions: the Case of Goma**

##### *HFA Priority of Identifying, Assessing, and Monitoring Risk and Enhancing Early Warning*

The community of Goma in the Democratic Republic of Congo, near the summit of the stratovolcano Nyirangongo and the shores of Lake Kivu, live in fear of violent eruptions. Nyirangongo is associated with the East African Rift and is part of the Virunga Volcanic Chain. Goma had received nearly one million refugees from the Rwanda civil war. During the past 25 years, the volcano claimed many lives and caused massive destruction of property. In 1977, the lava lake contained in the crater at the summit since 1894 erupted and drained in less than one hour with lava moving at speeds up to 960 km/hour and killing about 70 people. In 2002, the volcano poured two of its red hot lava flows right through Goma, killing more than 45 people directly and 50 indirectly through ignition of a petrol station, burning half of the city, damaging 14 villages, rendering 12,000 homeless and displacing 400,000 people. In addition, the people risked being poisoned from using the lake water for drinking, cooking and bathing.

The toll was high mainly because the early warning system failed at several points: (i) monitoring of the volcano signaled the imminent hazard but warning messages were communicated late to the population, on the morning of the eruption; (ii) there was no pre-planned response program as the local political authorities debated the content of the messages and the evacuation program to follow; (iii) there was no prior education and awareness creation on evacuation and safety procedures; (iv) the volcanologists were not involved in crafting the messages; and (v) the messages broadcast when the volcano erupted were confusing and did not contain a clear response strategy, thereby worsening the panic.

The calamity, however, was a wake-up call that galvanized community action to forestall future destruction. Earlier in 2001, a coalition of international and local NGOs (led by Concern and CRONGD), scientists from the Goma Observatory (OVG), community members, traditional heads in 9 municipalities, radio journalists from Okapi (the UN radio) and RTCN, and 24 community animators had initiated a UN-supported information, education and communication program to prepare the community to reduce losses and deaths from future eruptions. Now, action on the program was intensified.

The objectives of the program were to strengthen: (i) community understanding of volcano-related risks; (ii) information networks on risks associated with volcanoes; and (iii) mitigation response by affected communities. The campaign targeted a wide spectrum of groups including local community-based organizations and local associations, churches, medical bodies, schools at all levels, the police and military, NGOs and the general population.

By May 2003, the team had sensitized 222,665 Goma residents and its environs using messages on the risks posed by the volcano, including health impacts, the colored flag alert system, preparation before and after an eruption, and a response strategy in the form of evacuation planning. The team shared sensitization messages with traditional leaders first to gain acceptance before approaching communities through various means including brochures, radio broadcasts and billboards in several locations such as schools, health centers, markets, churches and other public places. Billboards showed the color-coded alert system at vantage points. Scientists of OVG collaborated with Concern, CRONGD and the radio stations to develop messages that were both scientifically accurate and understandable, and available in four local languages. A communication center was set up to support the early warning and preparedness program. The program adopted a participatory approach to generate information for risk assessment and mapping (instead of using existing formal risk maps), developing early warning indicators by involving communities in the identification of risk areas as well as in monitoring local signs of potential eruption danger. Emergency committees are being established in communities, and the local government is taking on oversight and monitoring responsibilities for the program.

Overall, the program has been effective in raising population awareness on the risks they face and has institutionalized alert messages and preventive response mechanisms to reduce losses in the event of future eruptions.

#### **4.7. Enhancing Inter-Sector Linkages in National Disaster Reduction Policy in Uganda**

*HFA Priority: Making DRR a Priority with Strong Institutional Framework<sup>12</sup>*

Uganda's Disaster Preparedness and Management Policy is based on the following principles: (i) sound planning, (ii) addressing legitimate interests, (iii) adopting a participatory approach, (iv) ensuring adequate expertise and technology, (v) utilizing a multi-sectoral approach, (vi) ensuring sound institutional capacity, (vii) enhancing public awareness and education, and (viii) considering social, environmental and economic costs of disaster prevention and mitigation interventions. It explicitly sets out an integrated, multi-sector and multi-disciplinary approach to disaster risk reduction as follows:

- In recognition of the need for a multi-disciplinary and integrated approach to DRR, it provides: (i) a broad policy framework to harmonize sectoral and cross-sectoral policy objectives; and (ii) guiding principles and strategies in key cross-sectoral themes—land use policy and planning, disaster preparedness and management information, water resource conservation and management, climate, gender integration, education, training and public awareness, population, and public participation in disaster management;
- The policy framework also contains guidelines for sector ministries and government agencies, communities and families, humanitarian agencies, development partners, the private sector and civil society organizations involved in disaster management; and
- It also provides for the creation of an inter-ministerial coordination and management systems, and local disaster management committees.

The Policy provides a good example of how to strengthen linkages among various elements in an integrated manner in developing DRR policy.

#### **4.8. Institutional Partnership: The Africa Regional Strategy for Disaster Risk Reduction**

*HFA Priority: Making DRR a Priority with Strong Institutional Framework*

UNISDR participated in the initial Johannesburg meeting promoted by NEPAD to brainstorm on the state of disaster reduction, agree a way forward, and forge a link with NEPAD to jointly promote disaster reduction in Africa. The meeting agreed on the need for a regional strategy to address disaster issues. A follow-on meeting in Nairobi to plan for the development of the strategy expanded the network of collaborating institutions (UNISDR, UNDP/BCPR, NEPAD with the involvement of the AU and the RECs). The outcome was a roadmap for development of the strategy. The preparation and review stage of the draft strategy further expanded the partnership with the additional involvement of the AfDB and national governments; other UN agencies participating in the review included WMO, WFP and UNEP. The process of review further involved the major thematic forum for disaster issues at ministerial level in the form of AMCEN. While AMCEN provided a review platform it was the Commission of the African Union that submitted the Strategy to the Summit for consideration. The Commission provided a leadership role during the elaboration of the Strategy and Programme of Implementation. It chaired all the sessions with NEPAD as co-chair. Again it was the Commission that convened the Ministerial meeting, in Addis Ababa that adopted the Programme of Implementation. It then submitted it to the 6th ordinary session of the Summit in Khartoum where it was approved by the Executive Council.

The process of preparing and approving the strategy provided a good example of institutional collaboration, which resulted in a number of positive outcomes, including:

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<sup>12</sup> Disaster Preparedness and Management Policy, Republic of Uganda, Kampala, 2002

- A network of institutions in the vanguard for DRR in Africa;
- Institutionalization of the role of AMCEN as a key forum for discussing DRR issues;
- Holding of the first-ever ministerial meeting on DRR under AU and UNISDR auspices;
- Operationalization and deepening of the collaboration between UNISDR and UNDP in supporting disaster reduction in Africa;
- A new partnership between the AU and UNISDR to support DRR in Africa; and
- An implementation role for the AU in the new Global Facility for Disaster Reduction and Recovery.

#### **4.9. Knowledge and Information Sharing: The Case of Southern Africa**

*HFA Priority: Building a culture of resilience to disasters through awareness, education and training*<sup>13</sup>

Africa lacks a region-wide disaster information center, but there are several specialized documentation centers that are expanding their activities into fields related to disaster recovery. One such example is the Southern African Research and Documentation Centre (SARDC), based in Harare with offices in Dar-es-Salaam, Harare and Maputo. An independent institution, SARDC has functioned as a non-profit foundation with the objective of providing information to improve knowledge on economic, political, social and cultural developments and their implications. To promote DRR-related knowledge, SARDC maintains documentation on the state of the environment, drought, and governance issues related to disaster risk awareness and management. It maintains the Musotwane Environment Resource Centre for South Africa and publishes key reports, including the State of the Environment in Southern Africa. Its staff also produces reports and articles for the Southern News Features media service and helps develop capacity by conducting regional training programs for journalists and editors.

#### **4.10. Protecting Degraded Dryland Forest: Tiogo Forest Reserve, Burkina Faso**

*HFA Priority: Reducing Underlying Risks*<sup>14</sup>

The objective of the project was to conserve natural resources while ensuring that local people had continued access to reserved forests for sustainable wood harvest. Local communities were organized into Forest Management Groups and under the supervision of regional forestry service personnel were actively involved in preserving the forest resources. Initial efforts focused on conservation and sustainable management through protection and rehabilitation of vegetation cover. The local people effectively enforced grazing rules with the cooperation of herdsmen and farmers. Firebreaks were established, and stone cordons and anti-erosion dykes were erected around fields. As a result of these and other measures the local population has accepted the notion of sustainability, farmers efficiently harvest forest resources and herdsmen have reorganized their grazing systems to avoid uncontrolled grazing in the reserves. In terms of social capital, there are visible changes in the attitudes to forest use, new methods of forest management have been sustained after the end of donor support, intra-community relationships have benefited from better organization of forest areas and activities, and the communities have been able to invest in local infrastructure, such as schools and roads. Other benefits include re-generation of tree species through sustainable harvesting techniques, generation of additional income from sale of harvested wood, adoption of improved cooking stoves which save of time and energy, and communities better able to negotiate with authorities and other partners to better defend their interests.

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<sup>13</sup> UNISDR, Living With Risk 2002, 161-2.

<sup>14</sup> UNEP, Success Stories in the Struggle against Desertification, Volume I: Evaluation Reports. 2002.

#### **4.11. Disaster Information Management System in South Africa**

*HFA Priority: Building a culture of resilience to disasters through awareness, education and training<sup>15</sup>*

The University of Cape Town in South Africa operates a Disaster Mitigation for Sustainable Livelihoods Programme that has developed a disaster information management system for Monitoring, Mapping and Analysis of Disaster Incidents in South Africa. The systems focus on documenting the incidence of small recurrent and localized disaster incidents that are not often covered in large international databases but which have serious effects on marginalized communities. This consolidated database of small and medium scale disaster incidents has demonstrated its value. For example, during 1999/00 a team discovered more than a dozen sources of information on those disasters in Cape Town alone containing more than 10,000 records of disasters, compared to only 20-30 disasters officially declared during the period. The information is organized in user-friendly formats that allow data query and generation of additional information on patterns and trends. This approach is expected to better enable planners and residents to consider disaster more strategically as they consider other risks, such as crime, public health and traffic accidents as important development priorities. A positive outcome has been that improved access to additional information, particularly on previously un-reported disasters, has created a more readily understood concept of hazards, vulnerability and risk.

#### **4.12. Inter-Sectoral Collaboration and Heightened Education to Reduce Epidemic Mortality**

*HFA Priority: Making DRR a Priority with Strong Institutional Framework<sup>16</sup>*

Northern Ghana, situated in the southern fringes of the Sudano-Sahelian zone, is one of the most deprived areas in the country. It is difficult to establish a clear correlation between poverty incidence and the nature of vegetable cover and rainfall, but the incidence of poverty is highest in the three regions in Northern Ghana where climatic and vegetative conditions are harsher. There is also significant weather-induced seasonality in the incidence and prevalence of environmentally related diseases. For example, cerebro-spinal meningitis is most common in the dry season so the worst affected area is northern Ghana where the weather is dry. Major outbreaks over the past three decades occurred in 1984/85 and 1996/97. The latter was the most serious when 19,598 cases were reported nationwide with northern Ghana accounting for 95 percent of the cases. There were about 1,500 deaths.

After the major epidemic of 1996/97, it became clear that the Ministry of Health was not well prepared to respond to this kind of recurrent disaster. This was mainly due to the lack of prevention and mitigation planning, inadequate supplies of vaccines and low education of the people who thought that vaccination would result in impotency<sup>17</sup>. The authorities realized the need for urgent and more effective action to address the problem.

Consequently, NADMO increased its role in helping to curb the epidemic. It combined with the Ministry of Health to mobilize financial resources, contacted the WHO in Geneva for the supply of materials and coordinated the supply of relief materials. NADMO also guided the Ministry of Health to improve the timing and to sustain the duration of their vaccination education campaigns. As a result of these efforts there has been a significant increase in vaccination uptake, and only contained cases of meningitis are now reported, which do not reach disaster proportions.

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<sup>15</sup> UNISDR, Living with Risk 2002, page 168.

<sup>16</sup> Source: UNISDR, 2002, Review of Disaster Initiatives in West Africa.

<sup>17</sup> Personal communication from NADMO official.

#### **4.13. Preventive Management of Natural Hazards: Landslide Management in Uganda**

*HFA Priority: Reducing Underlying Risks<sup>18</sup>*

The Sironko district is a high-density population area that has been perennially beset with problems of landslides. Landslide events were perceived as natural events with no remedy, and the authorities responding with basic relief supplies. With the support of the German Agency for Technical Cooperation (GTZ), the department of disaster preparedness commissioned a study of the causes landslides and measures to address them. The study showed that landslides resulted from many factors, including geology, slope, drainage and land cover, but human activities were primarily responsible for triggering slides. Therefore, it was possible to adopt a preventive approach to landslide management based on reducing the risk by adopting a number of measures, including: (i) identifying and zoning risk-prone areas, and planning the most appropriate land use, (ii) encouraging settlement in safer areas, (iii) integrating slide prevention measures in road construction contracts, (iv) introducing early warning systems, and (v) stabilizing slopes with vegetation.

The authorities in the district adopted a preventive approach and communities were sensitized through public awareness programs. Positive outcomes of the program include:

- The level of public awareness about the mechanisms of landslide and preventive measures has risen significantly;
- Communities now realize that it is their activities that trigger slides and that they can mitigate them through human activities;
- People in slide-prone areas were relocated to safer areas during the 2002 El Nino season with no fatalities;
- District planning for slide management has been decentralized to the district level;
- Government departments now adopt an integrated planning approach; and
- The adoption of vegetative slope stabilizing methods has resulted in the planting of trees that provide benefits for other crops and additional income.

#### **4.14. Integrating Disaster Risk Management into Rural Development in Central Mozambique**

*HFA Priority: Making DRR a Priority with Strong Institutional Framework<sup>19</sup>*

In coordination with the National Institute of Disaster Management, GTZ supported a pilot project to integrate disaster risk management into rural development in the Buzi district of the Sofala Province in central Mozambique, an area extremely vulnerable to cyclones and flooding. The project worked with the Mozambique Red Cross at the community level in promoting activities such as risk analysis, disaster mitigation, development of an early warning system, disaster preparedness, and, incorporation of disaster risk management into district development plans.

The project has been successful in promoting integration of disaster risk management into local development activities. An evaluation in March 2005 showed that:

- Local disaster risk management communities exist and function with the acceptance of the communities;
- The communities reported increased awareness of disaster and increased capability to respond to them;
- Some residents had relocated to safer areas as a result of the risk information they received;
- District authorities realized the value of disaster risk management and incorporated the principles into the 2004 Buzi development plan; and

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<sup>18</sup> Source: UNISDR, Living With Risk 2004, page 181.

<sup>19</sup> UNISDR, Disaster Reduction in Africa, *ISDR INFORMS* Issue 5, 2005.

- Community awareness of the national cyclone early warning system increased as community members could identify the colored banners used for warning messages.

The assessment also suggested improvements by expanding the scope of the definition of disaster, upgrading information flows, ensuring the sustainability of the project, and continuing the process of integrating disaster risk management into the Buzi development plan.

#### **4.15. Index-based Weather Insurance Helps the Case of Malawi**

*HFA Priority: Reducing Underlying Risks<sup>20</sup>*

Drought during critical growing periods is the major risk to groundnut production in Malawi. Traditional crop insurance schemes that determine the extent of damage and the payout based on on-farm assessment of yield damage has proven costly to administer world-wide. Consequently, a new approach was adopted to effectively reduce the risk of crop loss through crop insurance and to show that severe weather risk, such as drought disaster risk, can be insured in Africa.

A partnership comprising the Commodity Risk Management Group of the World Bank and local stakeholders (the National Smallholder Farmers' Association, NASFAM, Opportunity International Bank of Malawi, OIBM, and the Malawi Rural Finance Corporation, MRFC) introduced an innovative pilot of weather index-based insurance to 892 farmers organized in farmers' clubs of 10-20 members in four areas for the 2005-06 crop year. The new insurance product utilizes rainfall index based on data from national meteorological stations as a proxy for yield losses. The impact of deviations in rainfall on yield enables determination of payouts from an insurance policy. Each insurance contract is in three phases with different levels of rainfall triggering payments so as to take account of the different rainfall needs during the three major phenomenological growth periods of the plan. In addition a 'no sowing condition' triggers payments if rainfall fell below the required minimum for successful crop production.

By participating in this scheme, the farmers gained several benefits. They mitigated their weather risks, received loan financing from OIBM and MRFC, utilized improved groundnut varieties that have a number of benefits over local seeds (such as higher resistance to diseases like fungal infections), gained knowledge of insurance as a risk management tool through information and training on the project by NASFAM, OIBM and MRFC, and have assured market for their higher-value products from NASFAM. The scheme has also introduced a new product to the insurance market in Malawi and has allowed participating banks to expand their lending portfolio while managing their risk. In addition, it has helped strengthen the operations of NASFAM, promoted modern technology-based agriculture, and catalyzed partnerships among project stakeholders. In subsequent years, stakeholders are looking to scale up the project to include other crops, such as maize and to expand to other areas.

The full impact of the program is yet to be evaluated because the pilot is ongoing. However, this scheme, which together with that in Ethiopia, is the first of its kind outside South Africa in SSA, is expected to demonstrate the feasibility of market-based weather risk transfer and of utilizing this approach to enhance access to agricultural finance in Africa.

#### **4.16. Risk Assessment Study in Gambia**

*HFA Priority of Identifying, Assessing, and Monitoring Risk and Enhancing Early Warning*

The Gambia's geopolitical location and associated climatic characteristics render the country prone to natural hazards and potential disasters. In 2007, the country undertook an initiative to assess the country's hazard risks through the identification of 11 types of natural hazards, including drought and desertification

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<sup>20</sup> UNISDR, Disaster Reduction in Africa, *ISDR INFORMS* Issue 5, 2005.



caused by population pressure, deforestation, and slash-and-burn agricultural practices. The study “Gambia Living with Hazards” comprehensively laid out the hazard profile, geographical vulnerability, and policy considerations and recommendations for risk reduction in the country.

The study found that there has been a reduction of about 30 percent in average annual rainfall reflecting successive agricultural droughts and leading to declining trends of food production. Serious ecological drought is resulting in loss of wildlife habitat, disappearance of water catchments in various watersheds, and increased risk of flooding. It identified 19 man-made hazards and their possible causes, including environmental pollution and contamination of potable water sources caused by toxic waste release due to poor waste and landfill management; imported solid waste dumping; and sewerage release caused by poor sewage and liquid waste management, which are primary causes of respiratory, ocular and skin infections, anthrax, meningitis and other diseases in the country.

## **5. GAPS, CONSTRAINTS AND NEEDS**

### **5.1. Key Gaps and Constraints**

This section describes major constraints encountered in implementing policies, strategies, and legislation on disaster reduction and its integration in sustainable development. It provides the basis for identifying gaps in disaster management practice that need to be addressed to facilitate the adoption of DRR approaches across the region.

#### **5.1.1. Low Political Commitment to Disaster Risk Reduction**

Commitment of national leaders is key to achieving visibility for and support for DRR at all levels. Collective political commitment at the regional level is high, leading for example to adoption of the DRR Strategy and Implementation Plan as well as the Climate Change Strategy and Action, this does not always translate to national political commitment. Institutional DRR frameworks in the region are inadequate at national and sub-regional levels. Governments need to demonstrate commitment through strategically and adequately resourced actions. One avenue is to strengthen dedicated public funding for DRR.

#### **5.1.2. Weak and Incomplete Institutional Frameworks**

DRR legislation is often fragmented and uncoordinated across several statutes, while in most cases comprehensive disaster management legislations suffer from a number of weaknesses. For example, legal frameworks do not emphasize the need to develop by-laws for hazard mitigation, adopt zone and regional planning regulations, and develop enforcement capacity. There is also a need to review and harmonize all sectoral laws related to environmental disaster management. Many plans are not technically sound and policy frameworks generally need to be upgraded and expanded. Most countries lack nationally developed, agreed and harmonized DRR strategy, policy and legal frameworks. The emerging National Platforms have yet to play significant roles in coordinating DRR policy and programs, their sustainability is not certain, they need further work to ensure they reflect a wide range of national stakeholder interest, and that they provide sufficient base and legitimacy to hold governments accountable for DRR.

#### **5.1.3. Difficulty in Reorienting to Disaster Risk Management**

Most national policy frameworks espouse the aim of DRR, but legislative frameworks and institutional mechanisms tend to still reflect emergency response and relief orientations. Institutional set-ups in the reporting countries are for disaster response and post-disaster management, with little capacity to undertake ex-ante risk assessments and risk mitigation measures. The paradigm shift to disaster risk reduction is clearly difficult for agencies and staff who have been used to relief mode of operation. This likely explains the slow progress in mainstreaming DRR throughout development policies and plans.

#### **5.1.4. Governance of DRR Mechanisms**

Most of the national disaster management systems are agency-centered, with interventions designed around national institutional authorities responsible for disaster management. The emphasis on developing the institutional capacity of NDMOs generally comes at the expense of greater stakeholder participation and more decentralized approaches. Where decentralization of disaster management is an objective, frequent constraints include: limited devolution of decision-making authority, inadequate competencies and capacity to fulfill decentralized responsibilities, conflicting institutional relationships and authorities, low fiscal decentralization, and weak public-private partnership management

There is a need to develop more community-based disaster management systems and approaches, which will require a change in the culture of disaster management organizations that can view DRR as a partnership between communities and DRR agencies, and placing less emphasis on technology-based solutions. Within this approach, there is a need to promote personal and community responsibility for disaster protection based on participation and knowledge sharing in DRR, which in turn promotes community compliance with disaster warnings and safety advisories. As part of this mental shift, there is also a need to more pro-actively involve the private sector and non-government actors in risk management.

#### **5.1.5. Inadequate Financing for Disaster Risk Reduction**

Most disaster management institutions face financing constraints. Financing disaster management is a shared responsibility, but the burden has fallen mostly on donors and national governments. Budgetary allocations to key sectors are inadequate, and there are no norms that would allow budget allocations for risk mitigation based on risk assessments. But the lack of funding is not only a budgetary issue. As described in the previous section, there is considerable scope to explore alternative ways of investing in risk reduction, for example through insurance mechanisms.

#### **5.1.6. Weak Knowledge and Information Base for DRR Decision Making**

There is a weak knowledge and information base to support DRR largely due to: lack of awareness of DRR among the public and some national authorities, lack of data and information, weak communication, inadequate inventory and exchange of best practices, unavailability of information about risks to support decision-making, and inadequate research on DRR. A major objective of strengthening the institutional framework should be to improve the knowledge base for disaster management operations, including information management and communications, education and training, public awareness and research.

#### **5.1.7. Inadequate Capacity to Implement DRR**

Lack of capacity to mainstreaming DRR at national and community levels is due to several factors discussed earlier, including: low knowledge, skills, competencies, staff and information at all levels to implement DRR programs and projects, inadequate financial sources, weak governance of DRR, inadequate monitoring and review of DRR design and implementation, weak coordination of DRR policies and programs, and limited inter-state cooperation.

### **5.2. Key Needs**

#### **5.2.1. Improve Identification, Assessment, and Awareness of Disaster Risks**

There is a need to strengthen knowledge of the variety, geographical coverage, type and extent of disaster risks across the region. Risk profiling should aim at building a comprehensive understanding of current and future exposures of SSA countries to hazards. Assessments of disaster risks to development and the effects of development on disasters, early warning needs, and assessment of disaster losses is of particular need in the region. Hazard monitoring capacities have improved over recent years, but this has not led to a significant reduction in risks, as national authorities are not always able to respond to warnings, and highly vulnerable communities generally do not have access to relevant, timely and understandable warning information.

### **5.2.2. Capacity Development**

The lack of technically oriented human resources dedicated to DRR has hampered implementation of policies and projects. Cross-sectoral training for all professionals involved in disaster management is vital. Priorities in terms of hydro-meteorological services include: telecommunications, internet access, computer hardware and software for effective coordination and early preparedness, development and sustainability of observation networks for meteorological, hydrological and climate phenomena, standardized hazard data products and methodologies for statistical analysis of hazard characteristics and mapping, and risk assessments (with a priority on floods and drought), strengthened capacities for hazard early detection and warning, and integration of warnings and other specialized forecasting services in support of emergency preparedness, response and relief operations

### **5.2.3. Enhance Knowledge Management for Disaster Risk Reduction**

The transformation of disaster management practices toward a DRR approach will occur when knowledge of disaster risks and reduction options is well disseminated to all partners. It is therefore necessary to strengthen national and regional mechanisms and forums for knowledge transfer, to share ideas, experiences, and information, identify needs, and encourage stronger linkages across the region. Priorities also include joint technical training and capacity development of different agencies involved in DRR, bringing the scientific and technical agencies together with media, sectoral planning, emergency response and humanitarian agencies.

### **5.2.4. Increase Public Awareness of Disaster Risk Reduction**

Increasing public awareness of DRR options is pivotal to the empowerment of people to protect their livelihoods against disaster risks. Risk reduction information needs to be provided regularly through all means of communications. In the long run, increasing public awareness of risk reduction practices needs to become part of the development culture and practice in SSA. The education system has an important role to play in developing awareness tom DRR.

### **5.2.5. Improve Governance of Disaster Risk Reduction Institutions**

Disaster management institutions need to be strengthened if DRR is to be integrated into development. This requires that the governance of these institutions be improved and that they develop the requisite capacity with adequate and secure resources. Legislative improvements are needed in most countries, with particular emphasis on monitoring and enforcement, using inclusive and participatory processes, and coordinating and harmonizing activities with relevant stakeholders. Specifically, legislation or partnership agreements are strongly needed to better define the roles of multiple stakeholders in DRR.

### **5.2.6. Integrate Disaster Risk Reduction into Emergency Response Management**

DRR needs to be integrated into emergency response and post-disaster rehabilitation and reconstruction activities in the region. A long history of disasters has shown that timely and comprehensive recovery comprising relief, rehabilitation, and reconstruction interventions can reduce vulnerability and promote development if local coping capacities contribute to sustainable recovery.

### **5.2.7. Increased Financial Support for Disaster Risk Reduction Initiatives**

Bilateral and multilateral development partners need to review medium and long-term assistance priorities. Regular development support must factor in disaster reduction to achieve sustainable outcomes in a region that faces current climate shocks, and pervasive social and economic vulnerability. Donors can play a critical role in assisting countries in effectively shifting the paradigm from relief to risk reduction. Appropriately designed projects can have powerful demonstration effects in showing the benefits of investing in prevention strategies and DRR. This is also a cost-effective strategy for donors, since investments that lower risks will reduce the funding amounts that donors are asked to contribute through humanitarian appeals.

### **5.2.8. Disaster Risk Reduction Mainstreaming into Development Planning**

With many development projects underway in the region, there is a need to proactively factor in disaster risk. Sectoral linkages are required to support the bridging between development, climate change, disasters, and conflict. This requires the engagement of a diverse set of stakeholders and the integration of DRR into economic planning and budgeting processes, as well as CASs and PRSPs.

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## ANNEX 1: DEFINITION OF TERMS<sup>21</sup>

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Acceptable Risk	The level of loss a society or community considers acceptable given existing social, economic, political, cultural, technical and environmental conditions. In engineering terms, acceptable risk is also used to assess structural and non-structural measures undertaken to reduce possible damage at a level that does not harm people and property, according to codes or "accepted practice" based, among other issues, on a known probability of hazard.
Capacity	A combination of all the strengths and resources available within a community, society or organization that can reduce the level of risk, or the effects of a disaster. Capacity may include physical, institutional, social or economic means as well as skilled personal or collective attributes such as leadership and management. Capacity may also be described as capability.
Disaster	A serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope using its own resources. A disaster is a function of the risk process. It results from the combination of hazards, conditions of vulnerability and insufficient capacity or measures to reduce the potential negative consequences of risk.
Disaster Risk Management	The systematic process of using administrative decisions, organization, operational skills and capacities to implement policies, strategies and coping capacities of the society and communities to lessen the impacts of natural hazards and related environmental and technological disasters. This comprises all forms of activities, including structural and non-structural measures to avoid (prevention) or to limit (mitigation and preparedness) adverse effects of hazards.
Geological Hazard	Natural earth processes or phenomena that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation. Geological hazard includes internal earth processes or tectonic origin, such as earthquakes, geological fault activity, tsunamis, volcanic activity and emissions as well as external processes such as mass movements: landslides, rockslides, rock falls or avalanches, surface collapses, expansive soils and debris or mud flows. Geological hazards can be single, sequential or combined in their origin and effects.
Hazard	A potentially damaging physical event, phenomenon or human activity that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation. Hazards can include latent conditions that may represent future threats and can have different origins: natural (geological, hydrometeorological and biological) or induced by human processes (environmental degradation and technological hazards). Hazards can be single, sequential or combined in their origin and effects. Each hazard is characterized by its location, intensity, frequency and probability.

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<sup>21</sup> ISDR Terminology <http://www.unisdr.org/eng/library/lib-terminology-eng%20home.htm>



Hydrometeorological Hazards	Natural processes or phenomena of atmospheric, hydrological or oceanographic nature, which may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation. Hydro meteorological hazards include: floods, debris and mud floods; tropical cyclones, storm surges, thunder/hailstorms, rain and wind storms, blizzards and other severe storms; drought, desertification, wildland fires, temperature extremes, sand or dust storms; permafrost and snow or ice avalanches. Hydro meteorological hazards can be single, sequential or combined in their origin and effects.
Mitigation	Structural and non-structural measures undertaken to limit the adverse impact of natural hazards, environmental degradation and technological hazards.
Natural Hazards	Natural processes or phenomena occurring in the biosphere that may constitute a damaging event. Natural hazards can be classified by origin namely: geological, hydrometeorological or biological. Hazardous events can vary in magnitude or intensity, frequency, duration, area of extent, speed of onset, spatial dispersion and temporal spacing.
Natural Disaster	An extreme event in which a natural hazard interacts with individual and community exposure and vulnerabilities to trigger negative social and economic impacts on a scale that is beyond the coping capacity of the affected population.
Resilience	The capacity of a system, community or society potentially exposed to hazards to adapt, by resisting or changing in order to reach and maintain an acceptable level of functioning and structure. This is determined by the degree to which the social system is capable of organizing itself to increase its capacity for learning from past disasters for better future protection and to improve risk reduction measures.
Risk	The probability of harmful consequences, or expected losses (deaths, injuries, property, livelihoods, economic disruption or environmental damage) resulting from interactions between natural or human-induced hazards and vulnerable conditions. Conventionally risk is expressed by the notation Risk = Hazards x Vulnerability. Some disciplines also include the concept of exposure to refer particularly to the physical aspects of vulnerability. Beyond expressing a possibility of physical harm, it is crucial to recognize that risks are inherent or can be created or exist within social systems. It is important to consider the social contexts in which risks occur and that people therefore do not necessarily share the same perceptions of risk and their underlying causes.
Sub-Saharan Africa	Sub-Saharan Africa (SSA) comprises of 48 countries: Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Democratic Republic of Congo, Republic of Congo, Cote d'Ivoire, Djibouti, Equatorial Guinea, Eritrea, Ethiopia, Gabon, The Gambia, Ghana, Guinea, Guinea Bissau, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, Sudan, Swaziland, Tanzania, Togo, Uganda, Zambia, and Zimbabwe.
Vulnerability	The conditions determined by physical, social, economic, and environmental factors or processes, which increase the susceptibility of a community to the impact of hazards.

## ANNEX 2: COUNTRY QUESTIONNAIRE FORM

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### DISASTER RISK REDUCTION AND PREVENTION

COUNTRY NAME: \_\_\_\_\_

Contact information of the DRR focal point in your country:

National Platform Focal Point: (name, institution, address, telephone, fax, email)

Ministry of Finance or Planning Focal Point: (name, institution, address, telephone, fax, email)

1. Disaster profile: type of hazards, location, detailed impact on population and GDP (please provide very detailed information, facts, and numbers in replying to this question)

2. Institutions dealing with DRR: (please provide detailed information: national platform, sector Ministries, website, etc.)

3. Has DRR already been included into the PRSP? If yes, how? If not, what is the time line for the preparation of the next PRSP? Under which pillar of the PRSP is DRR mentioned. Please quote specific sections of the PRSP mentioning DRR (you can also attach any additional document to this questionnaire):

4. If it exists, what is the national strategy for DRR? (road map, clear key objectives, budget, etc.). What is the legislation in Disaster Risk Reduction?

5. Have comprehensive national risks or vulnerability assessments already been carried out? Please provide detailed information (summary of studies, type of risks, conclusion, website, etc.)

6. Given the typology of risks identified in (1), what are the key sectors (infrastructure, education, urban, water, etc.) which shall be or are involved in DRR? Please explain. Have you established dialogue with those Ministries on DRR and what has been the response?

7. Which DRR projects have been funded over the past 10 years (please be precise, for each project indicate the amount, objective, components implemented, donors involved, etc.) What have been the main lessons learned? What are the DRR projects under preparation?

8. Which difficulties/constraints do you encounter when mainstreaming DRR into national policy and investments?

## ANNEX 3: COUNTRY DISASTER RISK REDUCTION PROFILES

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Country Disaster Risk Reduction profiles provided in this annex was obtained via questionnaires (Annex 2) submitted to country representatives managing disasters in their respective countries. A total of 33 out of 48 countries responded. Several country responses outlines progress and identifies a number of key issues relating to disaster risk management in the region. What follows is a compilation of information from the questionnaires presented in a common template. There is considerable variation in the details and specificity provided in the country responses. The information is presented as received without any additional research or analysis.

### 3.1 Benin

#### **Disaster Profile**

Benin is subject to a range of disasters:

- Droughts
- Locust invasions
- Coastal erosion
- Torrential rains
- Floods
- Landslides

#### **Disaster Risk Reduction Institutions**

The overall responsibility for disaster management rests with the National Committee for Civil Protection (CNPC: set up by Decree 85-112 of April 5, 1985), established to coordinate disaster management in the country. It also has to facilitate integration of disaster management into sectoral polices and programs.

The CNPC is a multi-sectoral body composed of professionals from all stakeholders from various Ministries.

#### **Disasters and Poverty Reduction Strategy Paper**

Disaster risk reduction is mentioned in the PRSP, with an emphasis on prevention, risk management, and support provided to the population.

#### **National Policy and Legislation**

The National Policy on Disaster Management consists of three main areas:

1. Prevention, mitigation, preparedness, response and recovery and development. The Policy advocates integration of disaster management into development.
2. Information and training for the population, with an emphasis on education (especially among youth and women).
3. Practices/drills to improve populations' capacity to respond to disasters.

#### **Risk Assessment**

Partial assessments have been carried out, focusing on coastal erosion, drought, bush fires, and floods.

## 3.2 Botswana

### Disaster Profile

Botswana is vulnerable to a range of disasters, both natural and human induced. These occur with varying degrees of regularity and intensity. Major disasters include drought, floods, veld fires, animal diseases and HIV/AIDS in addition to structural fires, major transport accidents, pest infestation, strong winds, industrial accidents, and earthquakes.

Drought is a frequent phenomenon countrywide and major droughts have occurred in the 1980s. Floods occur during the rainy season from October to March.

Veld fires both natural and human induced are a regular occurrence during the dry months of April to November, with a peak in July. They occur mainly in National Parks and forest reserves. They have adverse effects on agriculture, wildlife, forestry and other natural resources. They also destroy life and both public and private property.

### Disaster Risk Reduction Institutions

The overall responsibility for disaster management rests with the Office of the President. In 1998, the National Disaster Management Office (NDMO) was established to coordinate disaster management in the country. It also has to facilitate integration of disaster management into sectoral policies and Programs.

The National Committee on Disaster Management is an inter-ministerial Committee of Deputy Permanent Secretaries from Ministries and representatives of Botswana Police Service, Botswana Defence Force, Botswana Red Cross Society, United Nations and Non Governmental Organisations. The committee is a policy formulation body responsible for developing a disaster management strategy for the country.

The National Disaster Management Technical Committee is a multi-sectoral technical advisory body composed of professionals from all stakeholders represented in the NCDM. The Committee advises the NDMO and NCDM on all disaster management issues.

### Disasters and Poverty Reduction Strategy Paper

NDMO will be consulting the Ministry of Finance and Development Planning to address this.

### National Policy and Legislation

In 1996, the Government formulated the National Policy on Disaster Management. The Policy relates to the following elements of disaster management: prevention, mitigation, preparedness, response and recovery and development. The Policy advocates for integration of disaster management into development.

In terms of legislation, only Sector Specific Acts are in place, NDMO has not yet developed comprehensive disaster management legislation. The following are relevant laws, policies, and regulations that include disaster management/risk reduction: Agrochemicals Act, Air Pollution Act, Botswana Fire Services Act, Botswana Police Standing Order No. 59, Botswana Red Cross Society Act, Botswana Wetlands Policy and Strategy, Building Control Act, Building Control Act Cap, Chemical Substance and Products Act (in Draft) Constitution of Botswana, Customs and Excise Duty Act Drinking Water Quality Standard, Education Act Environment Health Policy (in Draft), Explosives Act Factories Act, Food Control Act, Herbage Preservation Act, Import Control Regulations, Industrial Development Act, Industrial Development Policy, Local Police Act, Mines and Minerals Act, Mines, Quarries, Works and Machinery Act, National Disaster Management Act (to be enacted), National Health Policy National Policy on Disaster Management, National Policy on Rural Development, Police Act, Public Health Act, Public Service Act, Radiation Protection Bill (Draft), Road Traffic Act, SADC Strategy on Disaster Management, Trade and Liquor Act, Waste Management Act

### Risk Assessment

NDMO is undertaking the Hazard Identification, Vulnerability and Risk Assessment Study in 2007.

### Reported Challenges

Challenges include insufficient capacity, insufficient funds, and lack of data. Going forward, disaster risk reduction structures and policy initiatives need to be developed at national and regional levels.

### 3.3 Burundi

#### **Disaster Profile**

Burundi is subject to a number of disasters including floods, landslides, drought/famine, earthquakes, forest fires, epidemics.

Floods have severely detrimental impact on the country and are occurring more frequently. Between 1986 and 2004, damages caused by floods cost over \$100 million.

Landslides have become very common in Burundi. Landslides have occurred throughout the country. Analysis of ravines in Bujumbura reveals that enormous damage can occur if actions are not taken to mitigate degradation.

The country is also often exposed to drought and famine. Between 2004 and 2005 alone, over 800,000 people were victims of famine. To manage this crisis, \$7.4 million was mobilized.

Each year there are also over 500 earthquakes in Burundi. Most do not reach magnitude 3, but few large earthquakes can be felt.

Forest fires occur during the dry season and are often caused by pastoralists.

#### **Disaster Risk Reduction Institutions**

Disaster risk reduction falls under the Department of Disaster Prevention and Management under the Ministry of the Interior and Public Security (MISP). The National Civil Defence Coordination (CNPC) is the focal point for the National Platform. No multi-sectoral committee has been established as of yet.

Other ministries involved in DRR include: The Ministry of the Interior and Public Security; The Ministry of Land-use Planning, Tourism and Environment; The Ministry of Public Works and Equipment; The Ministry of Public Health; The Ministry of National Solidarity, Human Rights and Gender; The Ministry of National Education and Culture; The Ministry of National Defence and War Veterans; The Ministry of Finance; The Ministry of Foreign Affairs and International Cooperation; The Ministry of Development Planning and National Reconstruction; Office of President, Division charged with AIDS; The Ministry of Agriculture and Livestock; The Ministry of Commerce and Industry; The Ministry of Youth and Sports; and The Ministry of Energy and Mines.

#### **Disasters and Poverty Reduction Strategy Paper**

In Burundi, the PRSP is referred to as the Strategic Framework for Growth and Poverty Reduction (CSLP). DRR is only partially included in the CSLP due to the lack of a comprehensive disaster risk assessment and reliable data. However, in some sectors (environment, water, energy, agriculture and livestock, transport, security), there are components in which DRR has been mainstreamed albeit in a superficial manner.

#### **National Policy and Legislation**

The country is in the process of developing the national civil defence coordination and Department of Disaster Prevention and Management. The DRR bill is still being worked on as DRR is not considered a top priority amidst a host of other pressing issues.

#### **Risk Assessment**

The risk assessment is yet to be conducted as part of an on-going pilot project.

#### **Key DRR Projects and Lessons Learned**

- Project to care for famine victims as a result of drought: Amount US\$74,409.
- Education on unexploded land mines and canisters: Amount \$5,161,400.

#### **Reported Challenges**

- Inadequate application of legislative and regulatory texts pertaining to management in the technical areas concerned;
- Lack of material and financial resources to implement these projects;
- Lack of data on disaster prevention and management;
- Lack of a centralized data bank on disaster prevention and management;
- Lack of knowledge on risks;
- Lack of human material, financial, technical and logistical resources; and
- Lack of appropriate equipment.

## 3.4 Cameroon

### Disaster Profile

Natural disasters in Cameroon include mass movements (landslides, rock slides, subsidence and mud flows), earthquakes, volcanoes and gas emissions, drought, violent winds (gales, storms, and tornadoes), heat waves, cold dips, desertification, floods.

### Disaster Risk Reduction Institutions

The national focal point is the Ministry of Territorial Administration and Decentralization.

### Sectoral Involvement in DRR

For geological hazards: MINDEF, MINCOM, MINPLAPDAT, MINDUH, MINT, MINADER, MINIMIDT, MINTSS, MINEPIA, MINSANTE, MINEP, MINTP, MINEE, MINTOUR, MINFOF, MINDAF, MINAS, MINRESI, Ministries of Basic Education and Secondary Education.

Climatic hazards: MINDEF, MINCOM, MINDUH, MINSANTE, MINEP, MINTP, MINEE, MINTOUR, MINESUP, MINAS, MINADER.

### DRR Projects Lessons Learned

At the administrative level, there is need to create a more operational structure charged with disaster prevention and management.

At the financial level, there is need to increase financial and logistic resources of disaster prevention and management structures with a view to enabling them to face the multiple challenges they are supposed to address.

### Risk Assessment

A general study was conducted in 1999 in hazard-prone areas in Cameroon, but was not the subject of further research due to budgetary constraints.

### Reported Challenges

The main challenges include the lack of financial resources, lack of a culture of prevention among populations and little attention given to the phenomenon by the private sector.

### National Policy and Legislation

The Government is implementing a strategy that is based on 3 complementary axes: before, during and after disasters. The funding source for the strategy, an estimated 140.2 billion CFAF is yet to be determined.

A set of norms governs disaster prevention and management activities in Cameroon including the following texts:

- Law N°67-LF-9 and N°86/016 on the general structure of civil defense;
- Decree N°68-DF-7 aimed at strengthening protection of civil facilities of vital importance;
- Decree N°74/199 relative to regulations on emergency burial operations, exhumation and transfer of bodies;
- Decree N°96/054 defining the composition and the duties of the National Council of Civil Defence;
- Decree N°98/031 on the organisation of Emergency and Rescue Plans in the event of disasters or major hazards;
- Decree N°2002/018 pertaining to the ratification of the Framework Convention on Civil Defence;
- Decree N°2005-104 relative to the structure of the Ministry of Territorial Administration and Decentralisation;
- Decree N° 2005/327 of September 6, 2005 relative to the organisation of the management of civil aviation in Cameroon;
- Presidential Instruction N°02/CAB/PRC on safeguarding and protecting civil facilities of vital importance;
- Presidential Instruction N°16/CAB/PRC of September, 1972 relative to the coordination of defence efforts;
- Presidential Instruction N°005/CAB/PR of August 24, 1987 relative to the security watches in the Nation; and
- Order N°037/PM relative to the creation, organisation and operations of the National Hazards Observatory.

### Disasters and Poverty Reduction Strategy Paper

DRR has not been included in the country's PRSP which is currently being reviewed. The exercise will come to a close at the end of 2007.

### 3.5 Cape Verde

#### Disaster Profile

- Volcanic eruptions
- Earthquakes
- Floods
- Landslides
- Drought and desertification
- Tsunamis

#### Disaster Risk Reduction Institutions

The national focal point charged with leading DRR in the Government is the Ministry of Interior and Civil Protection. Other institutions such as the National Institute of Geophysics and Meteorology, the Laboratory of Civil Engineering, the Management of Food Safety, Directorate-General of the Environment and Red Cross are also involved.

#### National Policy and Legislation

Legislation in force in the country:

- Law n° 100/V/99 of established April 19, 1999 which forms the basis of Civil Protection;
- Decree n° 05/99 of June 21, 1999 on the composition and the operation of the National Council of Civil Protection (CNPC), of "Center Nationale Operations d'Urgence of Civil Protection (CNOEPC), and the Municipal Centers of the Operation Centers for Civil Protection (CMOEPC); and
- Lawful Decree n° 18/99 of December 20, 1999 organization of National Service of Civil Protection (SNPC).

#### Risk Assessment

The country has completed a risk assessment and published an atlas of the identification of risks.

#### Reported Challenges

The biggest constraints have to do with lack of equipment and material for emergencies.

### 3.6 Union of Comoros

#### **Disaster Profile**

Cyclones and floods: The average frequency is 1 to 2 occurrences per annum. The cyclone season is from November to April and results in 1,000 disaster victims on average.

House fires: Occur often and can be deadly. They are caused by non compliance with safety conditions.

Volcanic eruptions: The probability of occurrence is between 3 to 4; every 10 years the Comoros experiences an eruption. However, in 2005 there were two eruptions inside the crater within a space of 8 months, April and November, and the economic and environmental consequences were significant.

Tsunamis: The majority of the population lives by the sea. In the event of a devastating tsunami, the consequences would be serious. There are neither early warning systems nor evacuation plans.

#### **Risk Assessment**

Natural Risk and Vulnerability Assessments have been partially conducted in the Comoros.

#### **Reported Challenges**

- Knowledge sharing at the national and regional levels;
- Support from media;
- Improvement in response capacity; and
- Improvement in exchange of information.

#### **Disaster Risk Reduction Institutions**

Ministry of Transport, Posts and Telecommunications and Tourism; Ministry of Health, Solidarity and Gender; Ministry of Agriculture, Fisheries, Industry, Craft and Environment; Ministry of National Education, Research, Arts, Culture, Youth and Sports; Ministry of Land-Use Planning, Urban Planning, Housing and Energy.

#### **Disasters and PRSP**

DRR is already included in the PRSP as well as the 2006-09 action plan.

#### **Key DRR Projects and Lessons Learned**

All DRR projects implemented in the Comoros have been of great use to the community: sanitation projects, water distribution projects, covering of tanks or community sensitization projects on the tsunami.



### 3.7 Democratic Republic of Congo

#### Disaster Profile

- Volcanic eruptions
- Erosions, landslides, mudslides
- Floods
- Drought

#### Disaster Risk Reduction Institutions

The main institution is the Council for Civil Protection (CPC) in the Ministry of Interior, but this it has not been operational since its creation in 1996.

Sectoral ministries involved include: Environment, National Defence, Public Health, Public Works and Infrastructure, Transport and Communication, Social Affairs, Social Affairs, International Cooperation, Mines, Energy, Agriculture, Works and Social Welfare, Humanity Affairs.

#### Disasters and Poverty Reduction Strategy Paper

DRR is included in the PSRP in the following sections:

Pillar 1: To promote good governance:

- Reinforcement of peace and security
- Securitization of people for their wellbeing

Pillar 2: Encourage Macroeconomic stability and growth:

- Rejuvenate economic activity in the country
- Rejuvenate key sectors to promote growth.

#### Risk Assessment

There has been a partial risk assessment of hydrological risks to the agricultural sector. In addition, there is an analysis of risks in coastal zones.

#### Sectoral Involvement in DRR

Ministry of Interior, Department of Environment, Ministry of Public Works and Infrastructure, Ministry of Town Planning and Habitat, Ministry of Transport and Communication, Ministry of Public Health, Ministry of Social Affairs, Ministry of Humanitarian Affairs, Ministry of Finance, Planning Commission.

#### National Policy and Legislation

Currently, a roadmap for DRR has not been defined as the Council for Civil Protection is not operational.

The objective of the roadmap is to:

- Create a permanent framework of dialogue, information and action;
- Adopt and apply policies for town and habitat planning;
- Identify zones at risk around the country;
- Support efforts to learn about risks in the country; and
- Reinforce capacities response capacities.

#### Legislation

- Legal texts dating from colonial times are obsolete.
- There is a decree of June 20, 1957 on urbanization.
- International Legal Instruments include:
  - UN Charter
  - Universal Declaration of Human Rights
  - Charter of the African Union
  - African Charter
  - Geneva Convention and others

#### Key DRR Projects and Lessons Learned

The following are key DRR projects:

KIVULU/ Mont Ngafula RN1 - \$850,000

MATABA I Binza Delveaux - \$6.9 million

Drève of SELEmbao - \$11 million (World Bank)

Lessons Learned:

- The late releasing of the requested funds for the implementation of the projects only further supports increases in erosion and vulnerability and costs;
- The majority of response interventions require temporary relocation of people to new areas but it is difficult to fund related expenses; and
- There is a pressing need for maintaining and/or adding agriculture safety nets.

#### Reported Challenges

- Non-operational legal framework;
- Lack of political will for funding DRR;
- Insufficient and obsolete legal texts;
- Overlapping of work of various actors;
- Weak involvement of involved communities; and
- Lack of a master plan for managing disasters.

## 3.8 Republic of Congo

### Disaster Profile

Natural Disasters: erosion, floods, downpours and torrential rains, violent winds.

Technological Disasters: marine water pollution, accidents.

Epidemiological Disasters: Ebola.

Armed Conflict: influx of Immigrants from neighboring countries.

### Disaster Risk Reduction Institutions

Ministry of Forest Economy and Environment is the main institution dealing with DRR.

Other stakeholders include: Prime Minister's Office, Environment, Social Affairs and Humanitarian Action, Forest Economy, Police and Security, National Defence, Finance, National Education, Agriculture and Fisheries, Territorial Administration, Land Use and Planning, Health and Population, Hydrocarbons, Hydraulics, Construction and Housing, Mines and Energy, Scientific Research, Communication, Foreign Affairs, Justice, Marine, Transport and Civil Aviation, Industry

### Disasters and Poverty Reduction Strategy Paper

In the interim PRSP, DRR has been taken into account in a sectoral manner in the pillars dealing with:

- Environment (natural risks, floods, erosion),
- Social Affairs and Humanitarian Action: armed conflict, massive inflows of immigrants from neighboring,
- Health: epidemic hazards including Ebola, HIV/AIDS.

### Risk Assessment

Evaluations and analyses have been conducted throughout the country but there was no indication of a full risk assessment having been completed.

### Key DRR Projects and Lessons Learned

Congo has not yet developed specific DRR projects. OCHA and UNDP have developed a contingency plan. Projects likely to receive funding in Congo are those addressing the following:

- Education and sensitization in DRR;
- Control of floods, landslides and coastal and urban erosion; and
- Development of a sensitivity map of all hazard-prone areas in the country.

### National Policy and Legislation

There is no model national strategy specific to DRR, but there are sectoral intervention plans.

#### Legislation in force:

- Law no. 003/91 of April 23, 1991 on environmental protection;
- Decree no. 99-149 of August 1999, on the structure and operation of environmental protection funds;
- Decree no. 2001-249 of May 26, 2001 on the organization of rescue operations in the event of natural disasters or major accidents;
- Decree (not indicated) of December 31, 2001 pertaining to the institution of a national emergency intervention plan in the event of massive pollution by hydrocarbons; and
- Decree no. 65-193 of July 30, 1965 on the creation of search and rescue services for aircraft in distress.

A contingency plan in the event of floods and other average natural disasters has been developed and submitted to the Government for approval.

### Sectoral Involvement in DRR

There is no model national strategy specific to DRR, but there are sectoral intervention plans:

- National Emergency Intervention Plan in the event of massive pollution by hydrocarbons
- Rescue Organisation Plan (ORSEC)
- Search and Rescue Plan for aircraft in distress
- National Health Plan

### Reported Challenges

- The biggest challenge remains the institutional framework and getting an institution dealing specifically with disasters.
- The Platform is a consensual consultative framework but is not yet a decision making body. It needs financial and logistic resources to enable it to conduct some activities such as education and sensitization in hazard-prone or affected areas.
- Difficulty mainstreaming DRR in national investments is due to the fact that during the development of the national budget, all sectors and stakeholders include a very small budget item and has never been allocated.

### 3.9 Cote d'Ivoire

#### Disaster Profile

- Droughts
- Locust invasions
- Torrential rains
- Floods
- Landslides
- Storms
- Bush fires

#### Disaster Risk Reduction Institutions

- Department of the Environment, National Forestry Commission
- Ministry of Defense
- Ministry of Health and Public health
- Ministry of Agriculture
- Ministry of Livestock and Natural Resources
- Local authorities (Town Halls, Councils)
- NGOs and associations

#### Disasters and Poverty Reduction Strategy Paper

The PRSP that is based on the MDGs takes into account DRR.

#### National Policy and Legislation

At present, the Ivory Coast has only a few structures and resources for DRR. One is the ORSEC Plan for Natural Disasters and one for Technological disasters.

For certain situations such as toxic waste disasters, particular plans were setup, complementary to the aforementioned plans to address the situation.

#### Risk Assessment

Complete evaluations on food insecurity were carried out (May 2006, November 2006). Otherwise, a comprehensive assessment of other risks has not been undertaken.

#### Sectoral Involvement in DRR

Public health, Agriculture, Fishing, Animal Husbandry Infrastructure, Town Planning, and Water are a few of the sectors involved in DRR.

#### Key DRR Projects and Lessons Learned

The Ivory Coast has a host of programs and public awareness campaigns for the reduction of the risks of certain catastrophes. The principal actors are:

- National Office of Civil Protection (ONPC);
- Service of Emergency Medical Aid (SAMU);
- National Institute of Public health (INHP);
- Office of Road Safety (TO DARE);
- Antipollution Center of the Ivory Coast (CIAPOL); and
- National Committee against Bush Fires.

#### Reported Challenges

The major difficulties are the absence of an official platform for DRR for the coordination of policies and strategies and the absence of system of environmental and medical emergency services because of lack of funding.

### 3.10 Djibouti

#### Disaster Profile

- Droughts/famine
- Desertification
- Floods
- Fires
- Earthquakes
- Strong tides and tsunamis
- Volcanic eruptions

#### Risk Assessment

A risk assessment has not been carried out.

#### Key DRR Projects and Lessons Learned

1. Development of the National Strategy for DRR (financing of the UNDP: \$360 000)
2. Support for the implementation of the National Strategy (financing by the World Bank: \$200 000).

#### Disaster Risk Reduction Institutions

- Interdepartmental Committee on Disaster Risk Management.
- Intersectoral Technical Commission on Disaster Risk Management.
- Executive Secretariat of Disaster Risk Management.

Key institutions include: Ministry for the Interior, National Office for the Assistance with the Refugees and Disaster Victims, Management of Civil Protection, Meteorology, Ministry for Health, Management of the Maritime Businesses, Djibouti Armed Forces, Military, Management of Urban Safety.

#### Disasters and Poverty Reduction Strategy Paper

DRR is currently not incorporated in the PRSP although it is planned to be.

#### National Policy and Legislation

In the Djibouti Strategy, six strategic priority axes were identified:

- a) The installation of an intersectoral institutional structure for DRR;
- b) Reinforcement of national, regional competences for the preparation, prevention, and response to disasters;
- c) The Development of an information system;
- d) The integration of DRR and vulnerability in macro-economic planning;
- e) Installation of a durable financial mechanism; and
- f) Regional and international co-operation for DRR.

Djibouti adopted a law (n°140/AN/06/5ème L) in March 2006 dealing with natural disasters. The government also adopted a decree n°2006-0192/PR/MID (July 23, 2006) bearing installation of an institutional framework for the management of disasters.

### 3.11 Equatorial Guinea

#### **Disaster Profile**

- Volcanic eruptions
- Earthquakes
- Floods
- Landslides

#### **Disaster Risk Reduction Institutions**

There is still no institution dealing with DRR. The Ministry of Fishing and Environment has been managing disasters although without adequate resources and institutional support. The country hopes to involve all sectors and gain the support of international agencies.

#### **Disasters and Poverty Reduction Strategy Paper**

DRR is not currently included in the PRSP.

#### **National Policy and Legislation**

There is no national policy or legislation concerning DRR.

#### **Risk Assessment**

No risk assessments have been undertaken.

#### **Sectoral Involvement in DRR**

As floods are the main disaster afflicting the country, the following sectors have been involved in DRR: Fishing and Environment, Tourism, Culture, Mines, Energy, Infrastructure.

#### **Key DRR Projects and Lessons Learned**

There have not been any DRR projects due to lack of funding.

#### **Reported Challenges**

Lack of legislation on disasters and mechanisms of enforcement.

### 3.12 Eritrea

#### Disaster Profile

- Recurring drought is the major hazard in the country.
- In the year 2000, about 1.0 million and 335, 000 people were affected by war and drought; respectively. In 2004, the collective number of war and drought affected people escalated to 1.9 million.
- The Country's average annual GDP growth rate dropped from 7.0% in the period prior to 1998 to about 1.0 % in the post-1998 period due to the twin effects of war and recurrent droughts.

#### Disaster Risk Reduction Institutions

The Ministry of National Development (MND) is expected to lead the development of national strategy that addresses DRR. At present, no institution is designated as a focal point for DRR and Prevention issues. However, the Eritrean Refugees and Rehabilitation Commission (ERREC) formerly used to act as a focal point for DRR is now absorbed into the structure of the Ministry of Labour and Human Welfare.

#### Disasters and Poverty Reduction Strategy Paper

A draft Interim-PRSP has been prepared and at the moment it is awaiting for Government endorsement and subsequent implementation. Issues related to DRR, referred as the recent events of war and recurring drought and their effects are discussed in Section II of the draft document that deals with Poverty Profile in Eritrea, Poverty Incidence-Drought Impact table.

#### Sectoral Involvement in DRR

A national strategy for DRR is a prerequisite to identify key sectors to be involved in within the Country DRR program (to come). Key sectors would include: agriculture, water and sanitation, health and infrastructure.

#### National Policy and Legislation

At this stage, a strategy is not yet developed. The development of a strategy is expected to be carried out in 2007. And, as a joint program between UNDP and other UN agencies, the development of the strategy is included in the Annual Work Plan (AWP) for 2007.

#### Risk Assessment

A hazard risk assessment has not been undertaken, but quantitative and qualitative household Living Standard Measurement Surveys have been. The survey results have qualitative data on poverty incidence in Urban and Rural areas. These are categorized in terms of poor population, extreme poor population and non-extreme poor population; and the impact of draught on poverty incidence in the Country comparing the current Poverty Status (2003) with "Without Recent Drought (2003)" in terms of rural and urban settings.

#### Key DRR Projects and Lessons Learned

- In 1994 the Early Warning and Remote Sensing System was launched and later on this program shifted to the National Food Information System. Under these programs a number of project components related to DRR were carried out.
- The Emergency Reconstruction Programme is a good example which has also incorporated DRR issues.
- In the 2007-2011 UNDAF, the following activities are to be undertaken: development of a strategy for disaster prevention, preparedness and mitigation; and establishment of early warning systems for drought, other natural disasters and conflict. Also, a system for regular collection and analysis of data on vulnerable groups is planned to be established.

#### Reported Challenges

A national strategy for DRR must be in place and discussed among all relevant stakeholders before taking measures to mainstream DRR into national policy and investments. The major difficulties that occur during the process of mainstreaming are directly or indirectly associated with the prevalence of serious capacity gaps at different levels.

### 3.13 Ethiopia

#### Disaster Profile

- Recurrent drought;
- Environmental (deforestation and land) degradation and desertification;
- Floods;
- Wild/forest fire and landslide;
- Hail storms and frost; and
- Migratory crop pests, such as locust outbreaks.

#### Disaster Risk Reduction Institutions

- *National Disaster Prevention and Preparedness Committee*, chaired by the Deputy Prime Minister is the highest decision-making body in major issues related to disaster management in the country. Committee members include heads of ministries and agencies relevant to disaster management operations or issues.
- *Disaster Prevention and Preparedness Agency (DPPA)* is a secretariat for the NDPPC, and runs the day-to-day disaster management activities at federal level.
- *Crisis Management Group (CMG)* chaired by DPPA's General Director or the Deputy and consists of heads of departments of relevant ministries/agencies and act as chairs of sectoral *Emergency Task forces*
- *National Early Warning Committee/Working Group*
- *Technical Information Management Exchange (TIME) Meeting*, a monthly progress review meeting;
- Inter-agency technical teams for joint food situation assessment and relief requirement determination;
- Inter-regional 'ad hoc' meetings for emergency operations review and experience sharing.

#### Sectoral Involvement in DRR

The major sectoral areas that have key role in DRR in the Ethiopian context include:

- Agriculture and Livestock
- Water supply
- Health service
- Natural Resources and Environment
- Infrastructure and urban development

#### Disasters and Poverty Reduction Strategy Paper

To understand the linkage of DRR with Ethiopia's PRSP requires examining the underlying factors of disaster risks in the country. Chronic food insecurity induced by recurrent drought is the leading risk. Although no specific mention is made to DRR as such, the PASDEP (Plan for Accelerated and Sustained Development to End Poverty), Ethiopia's version of PRSP and a comprehensive 5-year development plan, implicitly covers a variety of interventions that directly contribute to the reduction of disaster risks.

#### National Policy and Legislation

The country has a fairly comprehensive disaster management policy called *National Policy on Disaster Prevention and Management (NPDPM)* endorsed in 1993. It is multisectoral and outlines the roles and responsibilities of the different sectors and actors with respect to emergency relief and response operations. It underscores the following policy directions:

- Relief – development linkage;
- Inter-sectoral disaster management integration or mainstreaming; and
- Proactive disaster prevention approach.

The NPDPM is currently under revision with a view to streamlining its major limitations or gaps identified in the course of its implementation.

#### Risk Assessment

Some assessments were carried out in the past, they were sporadic, patchy or localized. A major effort in this regard between 2000 and 2005 was the SERA Project executed under a former DPPA-USAID bilateral initiative. It studied the root causes of vulnerability of communities in 16 sample woredas (districts) that have suffered from chronic food shortages largely triggered by recurrent drought. Otherwise, no systematic, rigorous and consolidated assessments that can reveal national level risks/vulnerability situation have been carried out.

#### Key DRR Projects and Lessons Learned

There are many. The multifaceted national Food Security Program, which has two main components: Safety Net Program which aims to graduate chronically food insecure households and voluntary resettlement program that targets to move chronically food insecure households from highly degraded and drought-ridden areas to more fertile and habitable parts of the country.

#### Reported Challenges

**Lack of multi-hazard approach:** Lots of critics have claimed that the NPDPM as well as the resulting DM system of the country are heavily drought-biased. Little or no proper disaster mapping or research work has been carried out to systematically explore and record the types and extent of hazards in Ethiopia. Likewise, there are no early warning system and other preparedness facilities to address fast onset disasters.

**Lack of enforcement:** The Policy was not enforced by legislative power which has affected NPDPM implementation and legal enforcement.

### 3.14 Gabon

#### **Disaster Profile**

Approximately 60% of the population lives on sub-integrated areas (hazard-prone areas). The following are some disasters:

- Windstorms
- Floods
- Landslides
- Fires
- Epidemics

#### **Risk Assessment**

A risk assessment has not been undertaken.

#### **Sectoral Involvement in DRR**

Sectors engaged in DRR include Urban planning , Infrastructure, Environment, Transport, Mines, Civil Aviation.

#### **Disaster Risk Reduction Institutions**

Lead Ministry: Ministry of Natural Disaster Prevention and Management.

Sector Ministries : Ministry of Mines, Ministry of Environment, Ministry of Marine, Ministry of Civil Aviation, Ministry of Transport.

#### **Key DRR Projects and Lessons Learned**

There have not been any DRR projects due to lack of funding.

#### **Disasters and Poverty Reduction Strategy Paper**

DDR is included in the PSRP within the framework of sustainable development section on Emergency Preparedness (Civil Defence) – Social Safety Net.

#### **Reported Challenges**

Lack of financial, human and material resources.

#### **National Policy and Legislation**

The strategy for disaster risk reduction is still being developed.

The legal environment needs to be changed. Currently, some texts exist, i.e., law 0024/2004 pertaining to Risk Exposure Plans.



### 3.15 The Gambia

#### Disaster Profile

- Drought
- Salinisation
- Desertification
- Increasing surface temperatures
- Floods
- Locust/pest infestation
- Windstorms
- Climate change
- Acute potable water shortages
- Accelerated farmland erosion

#### Disaster Risk Reduction Institutions

DRR is dealt with by various institutions based on their activities and mandates. Institutions represented in the National Disaster, Emergency Relief and Resettlement Committee include: Office of the Vice President, National Environment Agency, Gambia Armed Forces, Gambia Navy, Gambia Fire and Ambulance Services, Gambia Immigration Department, Gambia Red Cross Society, Department of State for Health, Department of State for Agriculture, Department of Water Resources, Gambia Police Force, Gambia Food and Nutrition Association, Multi- and Bi-lateral Agencies, NGOs and others may be involved as required.

#### Disasters and Poverty Reduction Strategy Paper

DRR has been mentioned under the Environment pillar of the PRSP with reference to *The Gambia Incorporated: Vision 2020* document whose mission is "to transform The Gambia into a financial centre, a tourist paradise, a trading, export-oriented agricultural and manufacturing nation, thriving on free market policies and a vibrant private sector, sustained by a well-educated, trained, skilled, healthy, self-reliant and enterprising population and guaranteeing a well-balanced eco- system and a decent standard of living for one and all under a system of government based on the consent of the citizenry."

Having understood the importance of disaster preparedness in development and poverty reduction, it is further stated in the *Vision 2020* that one of the main challenges of Government in attaining its mission goal is the elaboration of an inter-sectoral and community based disaster preparedness plan with capacity built for its implementation.

#### Sectoral Involvement in DRR

Coordination of the involvement of all sectors is essential especially education, transportation and communication.

#### National Policy and Legislation

The national goal is to be more proactive in disaster management through the development of a National Disaster Management Policy, which is currently being finalized, to reduce vulnerability and impacts of disasters. Setting clear coordination mechanisms and capacity enhancement are some of the other short-term objectives.

There are plans to develop a legislative framework for disaster management including DRR, however, current provisions that regulate the management of environmental disasters are in the National Environment Management Act (NEMA), 1994, enforced by the National Environment Agency.

#### Risk Assessment

The Gambia Red Cross Society conducted a vulnerability and capacity assessment of twenty-two hazards in The Gambia with corresponding prevalent sites, services and capacities available for their management. Areas covered include health, fire, pest invasion, drug abuse, socio-economic problems, security threats, drought, flooding, and waste dumping among others.

The Concern Universal and its partners (2005) also conducted a VCA and further identified a total of 17 hazards in Foni Kansala, Kombo Central and Kombo South Districts. The analysis in their report only covers the top five hazards: water shortage, flood, epidemic, forest fires, and drought/desertification (by severity and community priority) as major hazards requiring attention.

#### Key DRR Projects and Lessons Learned

National Disaster Management Programme UNDP funded project: This project, among other things, will support the development of a comprehensive disaster management framework in The Gambia, through the development of a Disaster Management Policy to reduce vulnerability and mitigate against the adverse effects of disasters, ensure capacity enhancement and effective coordination.

#### Reported Challenges

Lack of legislative framework and capacity, including human, material and financial resources for advancement in DRR.

### 3.16 Guinea Bissau

**Disaster Risk Reduction Institutions**

Institute of Biodiversity and Protected Areas, and Ministry of Natural Resources.

**Disasters and Poverty Reduction Strategy Paper**

It has been included.

**National Policy and Legislation**

There is no national strategy or legislation on DRR.

**Risk Assessment**

A risk assessment has not been undertaken, but it has been envisaged within the framework of the PRSP.

**Key DRR Projects and Lessons Learned**

There have not been any DRR projects in the country.

**Reported Challenges**

There is political will but the topic is still difficult to address.

### 3.17 Kenya

#### Disaster Profile

The major disasters include: floods, drought, landslides, floods, and fire. The worst drought emergency in recent years affected the Central, Eastern, Rift Valley, Coast and North Eastern Provinces, with 4.4 million people requiring food and non food assistance in year 2000. In 2006, drought affected 37 out of 78 districts with a total population of 3.5 million people left in dire need of relief.

#### Disaster Risk Reduction Institutions

The National Platform:

- Coordinates participatory and interactive processes in promoting public awareness.
- Obtains commitment from national leadership on Disaster Risk Reduction.
- Liaises with UNISDR and other agencies in promoting disaster risk management culture in all sectors.

Sectoral Ministries

- Ministries are directly involved in disaster management at all levels. Their expertise is required in disaster management planning.
- The ministries are required to mainstream Disaster Risk Management in all their development programs.

#### Disasters and Poverty Reduction Strategy Paper

DDR was not included in the PRSP or the Subsequent ERS. In the past, DRR issues as well as disasters have not been viewed as a developmental but rather a humanitarian issue.

#### Risk Assessment

During the development of the DRR Strategy, a Vulnerability and Capacity Assessment (VCA) was also carried out. The summary of the studies is still being compiled.

#### Sectoral Involvement in DRR

- Health and nutrition,
- Education,
- Water and sanitation,
- Agriculture and livestock development, and
- Disaster emergency.

Others which should be included are: infrastructure, environment and local authorities.

#### National Policy and Legislation

A draft Disaster Risk Reduction Strategy for Kenya has been formulated and is in its final stages.

- Its objective is to lay a firm foundation to sustain community resilience to disasters event that are adversely affecting development gains in the country.
- It sets a foundation for an integrated, multi-hazard, all inclusive approach to address vulnerability, risk assessment, disaster risk reduction and management.
- It is also aimed at giving guidance on mainstreaming disaster risk reduction in development planning and project implementation.

The proposed budget to implement the strategy is given as Kshs.1,602,000,000 or \$21,945,205.

#### Legislation

The draft National Disaster Management Policy which is in the process of being legislated recognizes Disaster Risk Reduction as a major component of Disaster Management.

#### Reported Challenges

- Lack of DRR policy;
- Inadequate budgetary allocations to the key sectors;
- Lack of DRR awareness;
- Coordination; National Platform needs to be strengthened;
- Lack of DRR capacity at the local level to implement DRR programs and projects; and
- Lack of insurance for DRR/ disasters.

### 3.18 Liberia

#### **Disaster Profile**

- Rainstorms
- Landslides
- Conflict

#### **Disaster Risk Reduction Institutions**

The Ministry of Internal Affairs represents the Government of Liberia in dealing with disasters related issues. However, there are other institutions and agencies of government that deal with disasters and these include:

- The Environmental Protection Agency (EPA), and
- The Liberia National Red Cross Society.

### 3.19 Madagascar

#### Disaster Profile

- Cyclones
- Floods
- Hailstorms
- Drought
- Landslides
- Tsunamis
- Volcanic eruptions
- Tornados
- Erosion

The impact of Cyclones Elita and Gafilo in 2004 caused an estimated 2.3 percent loss in GDP. Cyclone Boloetse in 2006 caused a 0.7 percent decline in GDP.

#### Disaster Risk Reduction Institutions

CNS is the body dealing with disaster risk reduction and disaster management including response activities. CNS is chaired by the Minister of Interior Department and of Reform Administration. An Executive Secretariat guides the Council.

CNS was created by a first decree n° 72.377 of October 20, 1972, modified by decree n°82.249 of May 1982, replaced by 85.029 of February 13, 1985 and supplemented by the decree n°90.193 of May 15, 1990. CNS ensures the coordination of disaster related activities across the country.

#### Disasters and Poverty Reduction Strategy Paper

DRR is already included in the country's PRSP.

#### National Policy and Legislation

The national strategy exists in regards to DRR in the National Strategy on Catastrophe and Risk Management.

Legislation in force is law2003/010 relating to the National Strategy.

#### Risk Assessment

No complete analysis has been carried out but a study is currently being launched with the support of the World Bank in conjunction with CNS.

#### Sectoral Involvement in DRR

All sectors (Infrastructure, Education, Town Planning, Water, Electricity, Animal Husbandry) are involved in DRR.

The members of the National Platform take part in the development and the preparation of all matters concerning DRR. The Platform is composed of 7 commissions: Health Commission, Logistics and Infrastructure, Information, Education and Communication, Agriculture, Education and Science.

#### Key DRR Projects and Lessons Learned

Projects in 2006 included:

- \$7,000 by UNICEF for the formation of risk management plans;
- \$6000 by UNESCO for textbooks on natural disasters;
- \$550,000 by UNDP for reinforcing the implementation of the national strategy; and
- \$17,000 by UNOPS for capacity development in tsunami response.

Lessons Learned

- Mobilization of funds needs to occur sooner;
- Climate change is not well integrated into the National Strategy;
- Coordination mechanisms are still not in place;
- There is confusion in terminology; and
- Weak integration into institutional framework.

#### Reported Challenges

- Strengthening of institutions;
- Placement of key authorities to deal with DRR
- Capacity development; and
- Inventory is required for control/intervention of disasters.

## 3.20 Malawi

### Disaster Profile

Malawi is affected by different types of disasters. The most common ones are drought, floods, rain and hailstorms, pest infestations, epidemics such as cholera, road accidents and HIV/AIDS pandemic.

**Drought:** The whole country is susceptible to drought because smallholder farmers mainly depend on rainfed agriculture. The recent 2004/05 drought affected about 5 million people in all districts. A total of 249,000 metric tons of food was distributed to affected people at a total cost of \$2.8 million.

**Floods:** Floods affect districts in the Lower Shire Valley and Lakeshore. The worst floods occurred in 2001 when 15 out of the country's 28 districts were affected. A total of 112,000 households representing 561,000 individuals were affected.

**Rain and hailstorms:** Affect any part of the country during the rainy season, which is from October to March.

### Disaster Risk Reduction Institutions

The Department of Poverty and Disaster Management Affairs is responsible for coordinating disaster risk reduction activities in the country.

In addition, there is a National Disaster Preparedness and Relief Committee (NDPRC) that comprises Principal Secretaries of all line ministries and departments and 3 NGOs. The NDPRC provides policy directions to the Department of Poverty and Disaster Management Affairs (DoPDMA) on implementation of a disaster risk management program in the country.

### Disasters and Poverty Reduction Strategy Paper

Malawi has developed a Malawi Growth and Development Strategy (MGDS) for the period 2006–11 as a follow up to the PRSP implemented from 2002 to 2005. DRR issues are covered in the MGDS under Theme Two: Social Protection and Disaster Risk Management.

### Reported Challenges

- Lack of training in disaster risk management for officers in DoPDMA;
- Lack of adequate funds for DRR activities;
- Lack of capacity at district level, in terms of personnel and training in disaster risk management; and
- Lack of effective early warning systems.

### National Policy and Legislation

Malawi does not have a national strategy for DRR at the moment. The DoPDMA has been coordinating the development of a National Disaster Management Plan (NDMP) for Malawi. The process has not yet been completed. It has taken long because of lack of funding. The NDMP is supposed to be accompanied by an Operations Manual. DoPDMA would also like to start a process of developing a Disaster Risk Management Policy for Malawi. This process will go hand in hand with the development of the Plan and Operations Manual.

Malawi has a Disaster Preparedness and Relief Act of 1991. The Act will have to be reviewed after the Policy and/or Plan and Operations Manual are finalized.

### Risk Assessment

Comprehensive national risks and vulnerability assessments have not taken place. The Department of Geological Surveys is developing a project proposal to undertake risk and vulnerability assessments of geological hazards.

### Sectoral Involvement in DRR

Local Government and Rural Development; Agriculture and Food Security; Irrigation and Water Development; Economic Planning and Development; Transport and Public Works; Health; Energy and Natural Resources; Education; Lands and Physical Planning.

Dialogue has not yet been established with all these sectors except Local Government and Rural Development. Dialogue with all sectors will start after the national DRR workshop.

### Key DRR Projects and Lessons Learned

The main DRR project was the 2001 Flood Disaster Project funded by UNDP. The project was as a result of the severe floods in 2001. The objective of the project was to enable DoPDMA to effectively coordinate response to the floods. After the response activities were completed, activities with a DRR dimension were implemented. Under the project, for example, DoPDMA assisted 7 districts to develop Flood Contingency Plans. Funds from the project were also used to undertake some activities in the development of the NDMP.

### 3.21 Mali

#### **Disaster Profile**

- Droughts
- Floods
- Locust/pest invasions

#### **Disaster Risk Reduction Institutions**

The National Platform made up of following experts: Civil Protection, Weather, Hydraulics, Agriculture, Economy Foreign Affairs, Health, Economy and Finance, Communications, Armed Forces, UN, Red Cross.

#### **Disasters and Poverty Reduction Strategy Paper**

DRR is already included in the PRSP 2007-2012.

#### **National Policy and Legislation**

A National Platform exists with the following objectives:

- Identification of the risks of communities
- Identification of actors
- Coordination
- Education and sensitization

**Budget:** 300.000.000 CFAF by UNDP 800.000.000FCFA for equipment of the units

#### **Legislation:**

There are laws relating to disasters. Three regions out of 9 have building codes and town planning relating to DRR.

#### **Risk Assessment**

A risk assessment is in progress in 3 areas and a database of hazard risks is being developed.

## 3.22 Mozambique

### Disaster Profile

- Foods (yearly)
- Droughts (every 3 to 4 years)
- Tropical cyclones in Indian Ocean (3-4 per year)
- Earthquakes

Mozambique's history shows recurrent disasters, the most frequent being drought. The average of recorded droughts during 1980 and 2000 is of 0.43 and the number of deaths associated is approximately 4,000. Recorded average of occurrences of cyclones and floods for the same period is of about 0.33 for each one of them. Floods kill an average of about 40 people per year and cyclones about 22. In 2000, Mozambique registered the worst floods for the last 50 years, displacing 540,000 people and killing about 100. The following years other floods occurred with lesser impact.

### Disaster Risk Reduction Institutions

The Government of Mozambique established the "Instituto Nacional de Gestão de Calamidades" (INGC) to coordinate all matters related to reduction of vulnerability of people and infrastructures to disasters as well as prevention and mitigation. As for coordination mechanism the Government established the "Conselho Coordenador de Gestão das Calamidades" (CCGC) that is chaired by the Prime Minister and includes the following ministers: Local Government, Public Works, Agriculture, Planning and Development, Finance, Defense, Health, Foreign Affairs and Cooperation, Transports and Communications, Mineral Resources.

The Government is now in the process of establishing a National Emergency Center that will deal with search and rescue operations, and rehabilitation.

### Disasters and Poverty Reduction Strategy Paper

The main lines of the Master Plan for Natural Disasters Management are included in the PRSP. PRSP treats DRR as a cross-cutting issue recognizing that natural disasters are mainly due to high vulnerability of populations. Thus, the PRSP identifies the following goals in the management of natural disasters:

- (i) Reduce the number of victims and loss of property;
- (ii) Create and consolidate the culture of prevention; and
- (iii) Strengthen the ability of the country on prevention and mitigation.

### National Policy and Legislation

Mozambique has a comprehensive Master Plan for Prevention and Mitigation of Natural Disasters (MPPMND). The plan is part of the country's overall strategy for poverty reduction and the Government's Five Year Plan. The following are the activities under the plan:

- Delimitation of risk prone areas;
- Reinforcement of the early warning system;
- Mobilization of resources for prevention and mitigation of natural disasters;
- Reinforcement of inter-institutional coordination on response to natural disasters;
- Reinforcement of regional and international coordination, particularly in the management of river basins;
- Creation of a database that facilitates studies on climate change and its impacts;
- Promotion of construction and use of water storage systems in drought areas for human and animal consumption as well as irrigation; and
- Intensification of civic education.

### Risk Assessment

No comprehensive risk assessments have been conducted. However, the Technical Secretariat for Food Security (SETSAN) at the Ministry of Agriculture performs food and nutrition assessment every year.

### Key DRR Projects and Lessons Learned

During the last 10 years there were three main projects:

- Capacity Building supported by UNDP and implemented by INGC.
- Human Resources Development supported by Inwent (Germany) and implemented through INGC.
- PRODER supported by GTZ and implemented through the Ministry of Agriculture.

### Reported Challenges

The major difficulty is an alignment of goals between the Rural Development Sector and the Disaster Management Sectors. Although there is progress it has been difficult to change the modus operandi. The second major difficulty is related to funding. The Government has not mobilized funds for seek-and-rescue operations, efficient communications and information management systems.



### 3.23 Namibia

#### Disaster Profile

- Drought (expected every 7 years)
- Flooding
- Forest and Veld Fires
- Epidemics

#### Disasters and Poverty Reduction Strategy Paper

DRR is implicitly integrated into PRSP as poverty reduction contributes to reduction of vulnerability. There are however plans to mainstream DRR into development planning for all sectors in the new government strategic plan (the National Development Plan NIII 2006-15). The National Action Plan (NAP) for Directorate Emergency Management developed in 2005 includes community livelihoods projects to be implemented by various levels, government departments and development partners. The livelihoods projects are targeted at rural high risk areas where the burden of poverty is highest.

#### Disaster Risk Reduction Institutions

Disaster Risk Reduction is coordinated by the National Disaster Management System (NDMS). The NDMS is constituted of the National Disaster Management Committee (NDMC) made up of all relevant Permanent secretaries and representatives of relevant stakeholders i.e. UN agencies, Red Cross, NGOs and Civil Aviation. NDMC is the policy making body that reports to Cabinet through the Secretary to Cabinet who chairs it.

The Directorate Emergency Management based in the Office of the Prime Minister is responsible for the day to day coordination of Disaster Risk Management activities and is secretariat of the NDMC. The sub-national Disaster Risk Management structures are the:- Regional Disaster Management Committees (RDMCs) in the 13 regions of the country, the Constituency Disaster Management Committees (CDMCs) and the Village Disaster Management Committees (VDMCs).

#### Sectoral Involvement in DRR

Different sectors have sectoral disaster management plans to deal with sector emergencies. For example, the Ministry of Agriculture, Water and Forestry have contingency plans to deal with Animal Public Health Diseases, Veld Fire Management, Flood and Drought Management, Ministry of Health uses the National Health Emergency Preparedness and Response Plan to manage epidemics of human disease while the Ministry of Transport and Communication's Maritime Affairs is guided by the National Oil Spill Contingency Plan to control sea pollution to mention a few.

#### National Policy and Legislation

The National Disaster Plan (NDP) of 1998 is the framework on which Disaster Risk Reduction is being coordinated nationally. The only Disaster Risk Management legislations in force are the: Civil Defence Act 19 of 1986, Civil Defence Proclamation 54 of 1978 and the Civil Defence Ordinance 3 of 1979 that were promulgated by the former administration. There are current efforts to harmonize all disaster risk management legislation which began by development of a Draft Disaster Risk Management Policy that will be enacted into a Disaster Risk Management Act.

#### Risk Assessment

Namibia has been utilizing a Food Insecurity Vulnerability Mapping System (FIVIMS) that collects, analyses and disseminates information on people who are food insecure or at risk. But the system is not operational due to lack of appropriate expertise to run it.

In addition, the National Planning Commission Secretariat is conducting Participatory Poverty Assessment. So far 2 of 13 regions have been covered. The reports contribute to informed targeting in the implementation of PRSP projects as well as disaster risk vulnerability reduction. The National Vulnerability Assessment Committee exists but has not produced a report since 2003.

#### Key DRR Projects and Lessons Learned

- Capacity Needs Assessment (CNA) in Disaster Risk Management by UNDP
- Training on Mainstreaming DRR and Regional DRR Training

#### Reported Challenges

- Lack of harmonized national policy and legal framework for disaster risk reduction;
- Inadequate skilled personnel at national, regional and local levels to spearhead implementation of disaster risk reduction;
- Lack of capacity in risk identification and management at national and community levels;
- Inadequate access to accurate information, and timely collection of socio-economic information including access to early warning systems;
- Fragmentation of early warning systems, vulnerability and poverty assessments and use of information from government departments and UN agencies; and
- Limited financial resources

## 3.24 Niger

### Disaster Profile

**Drought:** Drought is the key disaster facing the country because it leads to the loss of vegetal cover, causing desertification, which according to statistics is advancing at the rate of 10km per annum, and significantly reduces arable land. The reduction of arable land leads to high population movement from the North to the South in the quest for arable land thus causing social conflicts that every year result in deaths. Of all disasters, drought has the most severe consequences on Niger's society and economy. The drought in 1984/85 leading to food shortages has been cited as the most recent example of a major disaster. In 1985, the number of persons displaced by drought reached 400,000. Following the drought, the country's agricultural production dropped by 50%, 40% of livestock were decimated, and GNP dropped by 12%.

**Pest Invasion:** Attacks by crop pests have become frequent during the rainy season in Niger and cause the destruction of harvests and pastureland. These attacks considerably reduce agricultural production and are the main cause of food crises making rural populations extremely vulnerable. The 2004 crop year was marked by a desert locust invasion which caused a severe food crisis in 2005.

**Floods:** Uncontrolled floods, which are caused by exceptionally high rainfall, destroy everything in their path, arable land, villages, settlements and even towns, endangering the lives and property of populations. A case in point is the 2003 rainy season when runoff flooded 113 villages causing the death of 8 people, the death of 204 heads of livestock and affected approximately 100,000 ha of crops.

**Bush Fires:** In Niger, bushfires are declared in the initial months following the end of the rainy season (October-November). Generally, there are several causes that are either through voluntary or involuntary actions. Voluntary bushfires are caused by pastoralists, agriculturalists, hunters, who light fires for regeneration purposes so there is pastoral renovation for livestock and re-fertilisation of soils. In most cases, after lighting fires, it is difficult to control them and as a result thousands of hectares of pastureland, granaries are destroyed as well as nearby villages.

### National Policy and Legislation

The DRR strategy will be refined on the basis of contingency scenarios in the National Emergency Plan for Food Crises Management (PNUGCA) is currently being developed.

### Risk Assessment

Complete assessments on food vulnerability have already been conducted (May 2006, November 2006). Conclusions drawn from the May evaluation are as follows:

- 15% of households are facing severe food insecurity;
- 15% of households are faced with moderate food insecurity;
- 29% of households are at risk; and
- 41% of households are food secure.

### Sectoral Involvement in DRR

Dialogue on DRR has begun between various Ministries through the establishment of a National Platform.

### Disasters and Poverty Reduction Strategy Paper

DRR is already included in Niger's PRSP through Programme 9.1 "Reducing the Vulnerability of Households" and 9.3 "Natural Disaster Prevention and Management" of the Rural Development Strategy (SDR) adopted in 2003. The last revision of the PRS is almost complete. DRR is being addressed under the "Rural Development" pillar.

### Key DRR Projects and Lessons Learned

There are none with the exception of short-term support from donors for intervention tools of the Food Crises Prevention and Management mechanism.

## 3.25 Nigeria

### Disaster Profile

- Droughts
- Floods
- Landslides
- Windstorms
- Rainstorms
- Fires
- Hailstorms
- Pest invasion

### Disaster Risk Reduction Institutions

- National Emergency Management Agency
- Institute of Peace of Conflict Resolution
- Federal Ministry of Environment
- Federal Ministry of Housing and Urban Development
- Federal Ministry of Water Resources
- Nigerian Urban Development Bank
- Relevant States Government Institutions for Environment and Urban Development
- Professional bodies in the Human settlement sector.
- Federal Road safety commission
- National Security and Civil Defence Corps

### Disasters and Poverty Reduction Strategy Paper

DRR is yet to be mainstreamed but the process of mainstreaming DRR into the overarching National Economic Empowerment Development Strategy Document (NEEDS) for Nigeria has begun.

### Sectoral Involvement in DRR

Dialogue on DRR has begun with the following agencies:

- Housing and Urban Development
- Works and Infrastructure Development
- Water Resources
- Humanitarian Response, Rehabilitation and Recovery
- Transportation
- Defence
- Science and Technology
- Education
- Environment
- Oil and Gas sector

### National Policy and Legislation

The enabling legislation for disaster management remains the National Emergency Management Agency (Establishment, etc) Act No. 12 of 1999 as amended by Act 50 which established the National Emergency Management Agency (NEMA). Prior to this law, there was the National Emergency Relief Agency established in 1990. However, the enabling Act No. 12 of 1999 re-designed and refocused the Agency from being just a relief agency to one that manages disaster in all its ramifications. A review of this law is now necessary even though the Agency is still struggling to fulfill its mandates.

There is a National Emergency Response Plan.

The National Platform for DRR has also compiled a National Action Plan for DRR (2006-15)

A broad-based, multi-sectoral National Policy for Disaster Management drawn up through a genuine national consultative process, with the active participation of diverse stakeholders, development partners, and other tiers of government is now on-going with DRR mainstreamed as the main philosophy.

### Risk Assessment

An Indicative National Vulnerability Study was carried out in 2002 but a more detailed study would be needed across the six broad geopolitical zones of Nigeria. The website is [www.nema.gov.ng](http://www.nema.gov.ng)

### Key DRR Projects and Lessons Learned

The World Bank had funded various projects in Nigeria in the urban and water sectors. While some of the projects have some implicit DRR aspects there are no direct DRR projects dealing solely with mitigation, rehabilitation and recovery.

### Reported Challenges

Being familiar to emergency relief response, it is difficult for the key operators of disaster risk management to embrace the paradigm shift to disaster risk reduction. Key traditional development planners take time to embrace the obvious linkage between development, poverty and disaster, and give DRR the priority it deserves in national development to protect development gains

### 3.26 Rwanda

#### **Disaster Profile**

Limited cases of natural disasters:

- Floods
- Landslides
- Droughts
- Forest fires
- Volcanic eruptions

#### **Disaster Risk Reduction Institutions**

On the disaster reduction/prevention side, there is a national body in charge of coordination and multi-sector aspects (National Service for Disaster Management). It consists of services from the Presidency Office, the Prime Minister's Office and line ministries:

- Ministry of Local Governance, Community Development and Social Affairs
- Ministry of Agriculture and Livestock
- Ministry of Infrastructure
- Ministry of Lands, Environment, Forests, Water and Natural Resources
- Ministry of Finance and Economic Planning
- Ministry of Defense
- Ministry of Foreign Affairs and Cooperation
- Ministry of Gender and Women in Development
- Ministry of Health
- Ministry of Internal Affairs

#### **Sectoral Involvement in DRR**

The Government of Rwanda has adopted a sectoral approach for all ministries. Disaster Risk Reduction/Prevention concepts do not directly come out as such in all sectoral plans; however, different sectoral policies include disaster risk reduction as an integral part in their respective area of intervention (water resource management, poverty reduction, climate change, education, development planning).

The Ministry of Lands, Environment, Forests and Natural Resources sectoral policy document describes mechanisms for natural resources management and environment protection.

#### **National Policy and Legislation**

A national policy on disaster risk reduction and prevention in Rwanda was formulated in 2002 and approved by the Cabinet in July 2003. From the policy, a national body on Disaster Risk Management was put in place in July 2004, and is functioning as an autonomous body under the Ministry of Local Government.

Priority axes and strategies of the National Disaster Management Policy were made according to the kind of disasters appropriate to the country and the region.

These include:

- Developing disaster risk management institutional mechanisms;
- Building national capacities on disaster management;
- Developing information and early warning integrated systems;
- Developing long-term financial mechanisms; and
- Mainstreaming disaster management in national programs (poverty reduction, community development, environment protection).

The Strategic Plan of Action of the National Policy on Disaster Management contains three phases in disaster management: prevention/mitigation before the occurrence, response in case of disasters, and rehabilitation.

## 3.27 Senegal

### Disaster Profile

- Drought
- Fires
- Floods
- Wind/rain storms
- Locust invasions

### Disaster Risk Reduction Institutions

Senegal's National Platform for Disaster Risk Prevention and Reduction is composed of:

- Interministerial Committee chaired by the Prime Minister;
- Steering Committee, co-chaired by the Minister of Economic and Financial Affairs and the Minister of the Interior;
- DRR Sectoral Committees; and
- Programme and Project Unit coordinated by the Department of Civil Defence, National Focal Point, Disaster Risk Prevention.

### Disasters and Poverty Reduction Strategy Paper

PSRP 2 (2006-10) identifies risks and disasters as among key factors hindering economic growth and poverty reduction and makes disaster prevention and management one of the pillars of its sustainable development strategy, just as wealth creation, access to social services and good governance.

Implementation of a national, multisectoral program on disaster prevention and reduction, and capacity building in disaster management in Senegal within the framework of a comprehensive and integrated social protection and disaster risk management strategy is considered vital, as it is a prerequisite to ensuring better visibility and resource mobilization for the realization of priority actions.

### Sectoral Involvement in DRR

Urban and Land Planning, Environment, Industry, Transport, Infrastructure, Agriculture, Livestock, Drought, Fishing, Tourism, Health, Mines, and Hydraulics.

### Reported Challenges

- lack of capacities to mainstream DRR at the national and community level
- lack of national resources allocated to implement sectoral disaster risk and industrial accident prevention and reduction programmes, as the latter require significant financial resources. Resource mobilisation could be done by the Government and development partners.

### National Policy and Legislation

In 2005, efforts were made to develop a National Disaster Risk Reduction Platform and development of a National Disaster Risk Reduction Programme. The strategy that is developing is based on:

- Institutional capacity building through the establishment of a National Disaster Risk Reduction Platform and the adoption of a National Disaster Risk Reduction program to be developed based on the Poverty Reduction Strategy;
- Improvement of the legal framework governing safety, particularly the adoption of legislative and regulatory texts and revision of obsolete texts;
- Capacity building for the management of major industrial accidents;
- Reduction of vulnerability to natural disasters particularly floods, coastal erosion, drought, locust invasions, tidal waves etc;
- Development of a culture of disaster prevention (information, sensitisation and mobilisation of policy makers, elected leaders, private sector and community; introduction of prevention in school and university curricula, and promotion of research and use of findings in disaster management.

### Risk Assessment

In 2005, a census of risks was undertaken in 11 of the country's regions. This work will be updated in 2007 as part of the UNDP Support Project in order to formulate a National Disaster Risk and Prevention Programme.

### Key DRR Projects and Lessons Learned

A Government/UNDP Support Project for the formulation of a National Disaster Risk Prevention and Reduction Programme (2006-09) has been developed focusing on:

- Creation of an Interministerial Committee on Disaster Risk Prevention and Management;
- Development of a national Disaster Risk Prevention and Reduction Programme and its various instruments;
- Development of contingency plans and emergency intervention plans;
- Development-update of national legislation ;
- Capacity building of institutions and national actors - organization of a resource mobilization mechanism for the program; and
- Creation of a database and resource centre and evaluate establishment of an early warning system.

### 3.28 Seychelles

#### **Disaster Risk Reduction Institutions**

All DRR activities operate under the guidance of the Department of Risk and Disaster Management.

#### **Disasters and Poverty Reduction Strategy Paper**

The Disaster Risk Reduction Strategy came into effect in 2004 at which point, the PRSP was in a very advanced stage and the strategy worked to enhance the PRSP.

#### **Sectoral Involvement in DRR**

All the country's ministries have been involved in DRR programs.

#### **National Policy and Legislation**

The Department for Risk and Disaster Management is represented at the Town and Country Planning Authority to ensure that DRR is included in all development proposals in the country.

The National Policy for Disaster Management and Disaster Risk Reduction has been drafted and is in its final stage of implementation.

Disaster risk reduction is included in the Environment Management Plan 2 and is implemented through the Environment Protection Act.

Road maps with clear objectives are included in the contingency plans for all the 24 districts.

The Department of Risk and Disaster Management has a yearly budget allocation from the Government.

#### **Key DRR Projects and Lessons Learned**

One of the main constraints encountered when mainstreaming DRR into national policy and investments is the securing of financial support. Too often, IFIs focus only on the progress the country has achieved and tend not to see the reasoning for their continued support to consolidate the progress already achieved. Hence, efforts to continue mainstreaming DRR into national policy and investments is hindered, vulnerability efforts and progress are set back, and consolidation and continuity becomes a major difficulty.

### 3.29 Sierra Leone

#### Disaster Profile

- Drought
- Tropical storms
- Flooding
- Erosion
- Landslides/mudslides
- Rock falls
- Fire/bush fires

#### Disaster Risk Reduction Institutions

The Disaster Management Department in the Office of Security is the Primary Coordinator of Disaster Management. Other key partners include: Ministry of Health and Sanitation; Ministry of Lands, Housing, and Country Planning; Environmental Division; Sierra Leone Roads Authority; Sierra Leone Maritime Administration; National Fire Force; Security; Ministry of Energy and Power; Ministry of Education, Science, and Technology; Ministry of Agriculture, Forestry, and Food Security.

#### Disasters and Poverty Reduction Strategy Paper

DRR is included in the PRSP under Pillar three, which stresses better environmental management, access to basic education for all, equitable health care for all, easing the housing shortage, improving quality of life for the vulnerable, active involvement of youths building, fighting of HIV/AIDS, gender equality and empowerment of women. It emphasizes the relationship between poverty and environment, and the need to increase access to safe drinking water and sanitation.

#### Key DRR Projects and Lessons Learned

The National Hazard Profile: UNDP (\$15,000) to compile National Hazard Profile of various regions and to assess the level of vulnerability of communities. The National Disaster Management Policy: Also funded by UNDP to raise awareness on DRR, incorporate DRR into development agenda and to provide guidelines for the government in taking forward DRR.

Other projects in the formative stages but needing funding:

- National DRR Legislation;
- National Disaster Management Plan;
- National Disaster Management Database;
- Establishment of DRR Committees in 12 districts;
- Building the capacities of the national Disaster Management Office in the form of training; and
- Awareness raising on DRR through the media, schools, volunteers groups and the community.

#### National Policy and Legislation

There is a National Strategy on DRR that has been incorporated into the PRSP. As well, the country has a Disaster Management Policy.

#### Sectoral Involvement in DRR

Given the multi-sectoral nature of environmental issues and the need for effective introduction of environmentally friendly sectors strategies, most of the measures identified during the field assessment have been mainstreamed into various sectors.

#### Risk Assessment

Assessments have been done in remote rural communities and urban slums where residents are often confronted with localized disasters. The assessment mapped areas of various disasters revealing:

- Destruction of biodiversity as a result of man's interaction with his environment;
- Deforestation; and
- Flooding which exposes vulnerable communities to risk. Many roads are impassable, affecting communications.

The vulnerability assessment clearly highlighted hunger as a risk to human life. This is especially due to the shift in the weather pattern as a result of climate change.

VCA has been done in some districts and is ongoing to complete the Disaster Management Policy.

#### Reported Challenges

- Lack of funds for awareness raising on DRR;
- Law capacity in terms of training to conduct risk mapping, indexing, hazard mapping and identification of vulnerable communities
- Poor resources for contingency planning and developing early warning systems
- The capacity of most state institutions in terms of material, human and financial resources are weak
- Need to re-orientate political leaders on DRR
- Problem of reaching out to vulnerable communities that are most at risk of disaster due to poor roads, vehicles and communication.

Critical is an improvement in the institutional framework governing the management of the environment to achieve better coordination and planning among stakeholders, establish an effective regulatory framework and enforce standards and guidelines.

### 3.30 Somalia

#### Disaster Profile

- Droughts
- Floods
- Cyclones
- Earthquakes
- Volcanoes
- Tsunamis
- Fires
- Dust storms

#### Disaster Risk Reduction Institutions

Somalia's public institutions had totally collapsed in 1999 with the fall of the last central government. And the ensuing years of fighting between rival fiefdoms have made whatever little infrastructures there dysfunctional. From 2005 onwards, the TFG is struggling to re-establish critically needed governance institutions including those of DRR. But so far, little has been achieved. The first thing accomplished is the establishment of the National Tsunami Disaster Management Disaster Bureau which is a precursor for a broad-based DRR institution. Other institutions that will play a role in DRR include Ministry of Interior, Ministry of Health, the Somali Red Crescent, etc

#### Disasters and Poverty Reduction Strategy Paper

Somalia is devoting great efforts to emerge from a decade-long conflict and has not yet had the opportunity to prepare the country's PRSP due to the obvious loss of institutional memory, lack of capacity and resources. However, there are some efforts towards drafting a Reconstruction and Development Plan (RDP), which would address the country's post-conflict needs in the short and medium-term perspective. And there is an opportunity to raise the DRR issue within the framework of RDP.

#### National Policy and Legislation

Presently, there is no national strategy for DRR. It is hoped during the formation of NTDMB that the bureau would lay the foundation for the development of national disaster risk reduction strategies. Unfortunately, the Tsunami Consortium partners' support which has been by the Somalia government has yet to materialize. And the NTDMB office can do very little as the expected support is not forthcoming, and while there is no alternative financing facility.

#### Risk Assessment

No comprehensive national risks or vulnerability assessments carried out.

#### Sectoral Involvement in DRR

The sectors that would have been involved in the development of DRR, among others, include livelihoods sector (i.e., agriculture, rural development, etc.) health, water and sanitation, national security, urban and local administrations. Currently, there is no dialogue deliberating exclusively on DRR but there are some ad hoc meetings held when a major disaster sets in and steering committees are formed that do respond to the particular incident only. Up to this moment the work toward disaster reduction is done on makeshift basis without systematic approach. However, the reason behind the establishment of NTDMB was to fill the existing gap and to address DRR in a more methodical way.

#### Key DRR Projects and Lessons Learned

As there was no central government prior to the TFG formation, DRR projects are designed and implemented single-handedly by UN agencies and INGOs mainly based in Nairobi. In fact, there are a number of projects regularly implemented by the said agencies, and there is little information as to the amount of funding, successes made or results of evaluation. Whatever information that exist is scattered due to lack of national capability for coordination. Hopefully, in the near future there will be a more fruitful cooperation between organizations working in the field of disaster risk reduction and the government. And it is the mandate of NTDMB to coordinate DRR efforts and take up its leadership position.

#### Reported Challenges

The NTDMB office is highly confident in its ability to streamline DRR into national policy and will continue looking for investment opportunities as it has the political support of the Office of the Prime Minister and the cabinet. However, constraints are many, but are mainly of financial and technical nature. Unlike other countries in Africa, Somalia still lacks the capacity to generate required finance that could cover the costs of building DRR institutions and the implementation of DRR programs.



### 3.31 Tanzania

#### Disaster Profile

- Drought
- Floods
- Landslides
- Cyclone
- Storms
- Earthquakes
- Fire
- Rodent infestation

#### Disaster Risk Reduction Institutions

Ministry of Water; Ministry of Works; Ministry of Health; Ministry of Home Affairs; Prime Minister's Office–Regional Administrative and Local Government; Ministry of Foreign Affairs and International Cooperation; Ministry of Defense and National Service; Tanzania Metrological Agency, Ministry of Agriculture, Food Security and Cooperation; Ministry of Livestock; Ministry of Finance; Ministry of Natural Resources and Tourism; Ministry of Planning, Economy, and Empowerment; Ministry of Lands, Urban Settlement and Habitation.

#### Disasters and Poverty Reduction Strategy Paper

DRR has been included into the PRSP (in Tanzania it is currently known as National Strategy for Growth and Reduction of Poverty – NSGRP). Chapter Two sections 5 and 6 of the NSGRP (June 2005) regarding Vulnerability and Cross-cutting issues.

#### Risk Assessment

The Disaster Vulnerability Assessment (Phase two studies) have been aimed at determining the type, location and frequency of the disasters at national and regional level; and identify the existing capacity and coping systems (organizational arrangement) at national and regional level. The study also focused on identifying direct and indirect causes of vulnerability of major hazards, developing a national vulnerability index and mapping out vulnerability of a given hazard in a given district. The study has mapped regions of vulnerability to various types of hazards.

#### Sectoral Involvement in DRR

There has been discussion with the following Ministries on DRR: Lands, Urban Planning and Habitation; Agriculture; Health; Water; Fire, Search and Rescue. There is willingness to mainstream DRR in development plans. The only constraint is lack of adequate resources and prioritization.

#### National Policy and Legislation

There is no national strategy for DRR. However, the Prime Minister's Office that includes the Disaster Management Department (DMD) has a Medium Term Strategic Plan 2004-2007. According to the plan the DMD's objectives are:

- To develop appropriate policies and strategies, and mobilize, educate and support national institutions in disaster management; and
- To be more effective in responding to disasters.

The above objectives have nine strategies whose activities are supposed to be budgeted for each financial year:

1. Ensure people have the knowledge and the skills needed to prevent disasters.
2. Regularly assess hazards and develop plans to prevent them.
3. Ensure all sector ministries have effective Disaster Management working groups.
4. Ensure effective Disaster Management Committees at the Regional, District, Ward and Village level.
5. Ensure all levels of government know what to do in case of a disaster.
6. Expand and improve the *First-Responder* programme.
7. Work closely with sectors to ensure the requisite equipment is in place.
8. Identify disasters as early as possible.
9. Effectively mobilize resources when disasters occur and monitor relief efforts.

#### Legislation:

The operating Legislation is The Disaster Relief Coordination Act, 1990 which was issued under Government Notice No. 33 published on 15/02/1991. However, the mentioned Act is in the process of Repealing and is targeted to tabling before June 2007.

#### Reported Challenges

There has been no constraint in mainstreaming the DRR into national policies. However, during investments it is perceived as an additional cost that is not necessary. Investments into visionary activities that are not yet a threat need continued education and lobbying to decision-makers.

### 3.32 Togo

#### Disaster Profile

- Floods both in rural and urban areas that are becoming increasingly devastating in terms of damage of property and persons, affecting the whole country;
- Drought. The 3 major droughts in the history of Togo occurred in 1942/1943, 1976/1977 and 1982/1983. Desertification affects the entire country;
- Landslides in mountainous regions particularly in the west of the Fazao mountains and in the Boulowou locality (Sotouboua prefecture) in 1988 and 1989;

There are also other disasters including:

- Storms and tornadoes that occur almost on an annual basis with wind speeds up to 115km/h;
- Various kinds of erosion over the last 25 years: coastal erosion, rain erosion, river erosion and wind erosion;
- Earthquakes. Togo has experienced 4 earthquakes in its history: 1862, 1906, 1911 and 1939. The maximum intensity registered on the Richter scale was 7.

#### Disaster Risk Reduction Institutions

Ministry of Environment and Forest Resources (MERF), the Ministry of Primary and Secondary Education, the Ministry of Transport (Department of Meteorology), the University (Faculty of Sciences and Faculty of Geography) and the Togolese Red Cross.

#### Disasters and Poverty Reduction Strategy Paper

DRR has not yet been included in Togo's IPRSP. The next date to finalize the IPRSP is in 2007. Four IPRSP pillars will be presented with a view to addressing DRR: (i) accelerated economic growth for poverty reduction; (ii) development of social, human resource, and employment sectors; (iii) sustainable management of the environment and natural resources; and (iv) promotion of good governance.

#### Reported Challenges

Considering that a formal national DRR strategy does not yet exist in Togo, the inclusion of DRR in national policies and investments is not evident to date, so it is difficult to point out constraints encountered.

The National Action Programme against Desertification (PAN) which generally takes into account some components of DRR in a loose manner has not yet been implemented due to lack of financial resources. A project "Resource Mobilisation Project for the Implementation of PAN" funded by the Global Mechanism of the UN Convention on Desertification is to be launched.

#### National Policy and Legislation

Togo does not yet have a national DRR strategy. The creation of a platform in January 2007 will mark the beginning of the process to define a road map for actions to implement with well defined objectives and a budget developed on the basis of a national DRR strategy. Types of disasters that are to be part of priority actions will be defined for the country.

Law n°88-14 of November 3, 1988 relative to the environmental code is the only one on DRR in Togo. However, today this law is outdated as it does not take into account the entire cross cutting elements that should facilitate the rational management of the environment. In this regard, a framework law on the environment is currently being developed and constitutes an excellent opportunity to mainstream DRR.

#### Risk Assessment

No comprehensive study has been conducted on the assessment of risks and vulnerabilities in Togo which explains the lack of available data. Indeed, it is one of the priority actions to be undertaken once the national platform is launched in January 2007.

#### Sectoral Involvement in DRR

The role of sectors in DRR will be specified in the national DRR strategy to be developed following the creation of a national platform through a road map of priority activities with the support of development partners.

#### Key DRR Projects and Lessons Learned

No specific DRR projects have been funded in Togo over the last 10 years. However, often there are humanitarian assistance projects targeting communities in the event of disasters, particularly floods, fires, accidents, refugees including ecological refugees and displaced persons following conflicts or all manner of political situations.

Nevertheless it is important to note that the National Adaptation Project on Climatic Change (PANA) is currently being developed. The project with funding of \$200,000 from UNDP can be capitalized in DRR programs and projects developed and implemented in Togo although it is not specific to DRR issues.

### 3.33 Zambia

#### **Disaster Profile**

- Droughts
- Floods/flash floods
- Fires

#### **Disaster Risk Reduction Institutions**

Ministries of Environment, Tourism and natural resources, Works and Supply, Health, Education, Agriculture and Cooperatives, Community Development and Social Services and Local Government and Housing. Others include the National AIDS Council, National Food and Nutrition Commission and the UN system. National Disaster Management Consultative Forum plays the coordination role. Non-Governmental Organizations (both local and international) like CARE, World Vision Zambia, FEWSNET, Programme Against Malnutrition, OXFAM, Catholic Relief Services, VALID International and VSO.

#### **Disasters and Poverty Reduction Strategy Paper**

Zambia is in its fifth PRSP. The Plan has not fully addressed the issues of DRR, but Zambia is carrying out a Comprehensive Vulnerability Assessment and Analysis exercise in order to come up with district vulnerability profiles which are the key to the mainstreaming of disaster risk reduction into development plans and strategies

In this regard Zambia intends to amalgamate the Fifth National Development Plan and the district vulnerability profiles, thus effectively mainstreaming disaster risk reduction into the Plan in the following manner: There will be an Addendum to the Plan, which will create the linkage between the Fifth National Development Plan and the district vulnerability profiles by stating that the district vulnerability profiles will be the instruments for the implementation of the Plan. It is hoped that this harmonization process will be completed before the end of first quarter of 2007.

#### **National Policy and Legislation**

Zambia does not yet have a disaster risk reduction strategy per se as district vulnerability profiles being generated. These are key to the designing of the DRR strategy. In terms of disaster risk reduction legislation, a Bill is in draft stage which relates to general issues of disaster mitigation, prevention, response and rehabilitation.

#### **Risk Assessment**

Comprehensive National Vulnerability Assessments have not yet been carried out. Zambia has however embarked on this process for the last one and a half years and it is expected to be completed by end of January 2007.

#### **Sectoral Involvement in DRR**

The key sectors that will be involved in disaster risk reduction include the following: food security, infrastructure, nutrition, health, education, environment, social safety net, HIV/AIDS and water and sanitation and also institutions responsible for coordination such as Disaster Management and Mitigation Unit (DMMU), Vulnerability Assessment Committee (VAC) as well as National Disaster Management Consultative Forum (NDMCF).

#### **Key DRR Projects and Lessons Learned**

Emergency Drought Recovery Project (EDRP)- \$50 million by World Bank in 2002: The purpose was to improve living conditions of vulnerable people. Specifically the project objectives were to assist the Government of Zambia in maintaining key commitments to its economic and investment priorities laid down in the PRSP and also to help restore productive capacity of the affected people.

#### **Reported Challenges**

There are difficulties in explaining convincingly to policy and decision makers to help them see disaster risk reduction strategies as lines of investment and not bottomless pits of expenditures.

Lack of resources to implement risk reduction strategies at the sectoral level.

### 3.34 Zimbabwe

#### **Disaster Profile**

- Cyclones
- Drought
- Lightning
- Earthquakes
- Landslides

#### **Disaster Risk Reduction Institutions**

Disaster management in Zimbabwe takes a multisector approach with all relevant sister ministries being members of the National Civil Protection Committee. A sample of sectors: Department of Information and Publicity, Department of Natural Resources, Physical Planning, Parks & Wildlife, Meteorological Department, Ministry of Interactive Affairs, Ministry of Mines, Education, River Authority, Foreign Affairs, Ministry of Transport, Ministry of Health, Ministry of Agriculture, Ministry of Finance.

#### **Risk Assessment**

Done at institutional level, the national level is planned.

#### **Key DRR Projects and Lessons Learned**

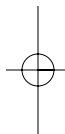
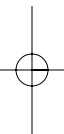
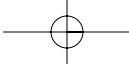
Support for Strengthening National Capacity for Disaster Management in Zimbabwe”: This is a three year project which started in January 2005 and will end in February 2008. The project focuses on five main areas:

1. Institutional capacity needs assessments (done),
2. Disaster risk assessment (partially done),
3. Updating the national strategy and plan and also supporting the preparation of the pilot provincial and district disaster management strategies and plan in the selected provinces and districts,
4. Support for legislative and policy development (ongoing), and
5. Institutional strengthening (ongoing).

#### **Reported Challenges**

Bureaucracy and lack of adequate funding.





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