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HFA

DISASTER RISK REDUCTION IN AFRICA

STATUS REPORT ON IMPLEMENTATION OF AFRICA REGIONAL STRATEGY AND HYOGO FRAMEWORK FOR ACTION

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МАН

ХПД

САН

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Humanitarian Aid
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INTRODUCTION AND ACKNOWLEDGEMENTS

Disaster Risk Reduction in Africa – Status Report on DRR is a report on the implementation of the Africa Regional Strategy for Disaster Risk Reduction (ARSDRR) and the Hyogo Framework for Action (HFA). It is a product of the United Nations Office for Disaster Risk Reduction Regional Office for Africa with financial support provided by the European Commission Directorate General for Humanitarian Aid and Civil Protection (DG ECHO). It was produced in order to contribute to the implementation of the ARSDRR and its Programme of Action (PoA), in line with the HFA. An earlier report on the status of disaster risk reduction (DRR) in the Sub-Saharan Africa Region was prepared in 2009 with support from the World Bank's Global Facility for Disaster Reduction and Recovery (GFDRR).

The report is based on HFA reports received from 37 countries since the beginning of the monitoring process as well as on information provided by the African Union Commission, the Regional Economic Communities (RECs), the United Nations (UN), intergovernmental organisations, other international non-governmental organisations (INGOs)as well as civil society and donors.

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DISCLAIMER

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ACRONYMS

ACF	Action Against Hunger
ACMAD	African Centre of Meteorological Applications for Development
ACP	African, Caribbean and Pacific
ACTED	Agency for Technical Cooperation and Development
ADAF	African Drought Adaptation Forum
AfDB	African Development Bank
AGRHYMET	Regional Centre for Agro Meteorology and Operational Hydrology
AMCEN	African Ministerial Conference on the Environment
ARC	African Risk Capacity Project
ARSDRR	Africa Regional Strategy for Disaster Risk Reduction
ASDRR	Arab Strategy for Disaster Risk Reduction 2020
AU	African Union
AUC	African Union Commission
AusAID	Australian Agency for International Development
AWGDRR	Africa Working Group on Disaster Risk Reduction
BCPR	UNDP Crisis and Prevention and Recovery
CAR	Central African Republic
CARE	Cooperative for Assistance and Relief Everywhere
CCA	Climate Change Adaptation
CCCI	Cities and Climate Change Initiative (UN-Habitat)
CEMAC	Central African Economic and Monetary Community
CEN-SAD	Community of Sahel-Saharan States
CEWARN	Conflict Early Warning and Response Mechanism
CEWS	Community Early Warning System(s)
CICOS	International Commission of Congo-Oubangui-Sangha Basin
CILSS	Permanent Inter state Committee for Drought Control in the Sahel (Comité permanent inter-État de lutte contre la sécheresse au Sahel)
COMESA	Common Market for Eastern and Southern Africa
COOPI	Cooperazione Internazionale
CPCM	Conseil Permanent Consultative du Maghreb
CRED	Centre for Research on the Epidemiology of Disasters
CSO(s)	Civil Society Organization(s)
DAC	Development Assistance Committee
DEWS	Drought Early Warning System
DFID	Department for International Development (UK)
DG ECHO	Directorate General of the European Commission's Humanitarian Aid

	Department
DIP ECHO	Disaster Preparedness ECHO
DMCN	Drought Monitoring Centre Nairobi (now ICPAC)
DRA	Comprehensive Disaster Risk Assessment
DRC	Democratic Republic of the Congo
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
EAC	East African Community
EC	European Commission
ECB	Emergency Capacity Building Project
ECCAS	Economic Community of Central African States
ECHO	European Community Humanitarian Office
ECOWARN	ECOWAS Early Warning and Response Network
ECOWAS	Economic Community of West African States
EM-DAT	International Disaster Database (CRED)
EWS	Early Warning System(s)
FAO	Food and Agriculture Organization of the United Nations
FEWS NET	Famine Early Warning Systems Network
GDP	Gross domestic product
GFCS	Global Framework for Climate Services
GFDRR	Global Facility for Disaster Reduction and Recovery (World Bank)
GHA	Global Humanitarian Assistance
GHA	Greater Horn of Africa
GHACOF	Greater Horn of Africa Climate Outlook Forum
GIS	Geographic Information System
GIZ	Deutsche Gesellschaftfür Internationale Zusammenarbeit
GRIP	Global Risk Identification Programme
HARITA	Horn of Africa Risk Transfer for Adaption Program
HFA	Hyogo Framework for Action
HIP	Humanitarian Implantation Plan (ECHO)
HIPC	Heavily Indebted Poor Countries
HIV/AIDS	Human immunodeficiency virus infection / acquired immunodeficiency syndrome
ICGLR	International Conference on the Great Lakes Region
ICLEI	Local Governments for Sustainability
ICPAC	IGAD Climate Prediction and Application Centre
IDM	Institute of Development Management
IDPs	Internally displaced persons
IDRL	International Disaster Response Laws
IFAD	International Fund for Agricultural Development
IFRC	International Federation of Red Cross and Red Crescent Societies

IGAD	Intergovernmental Authority on Development
IMF	International Monetary Fund
INGO(s)	International non-governmental organisation
IOC	Indian Ocean Commission
IOM	International Organization for Migration
ITC	Geo-information Science and Earth Observation
JICA	Japan International Cooperation Agency
KPAP	Karamoja Productive Assets Programme
LAS	League of Arab States
LEAP	Livelihoods, Early Assessment and Protection Project
LGSAT	Local Government Self-Assessment Tool
MDGs	Millennium Development Goals
MOU	Memorandum of Understanding
MSB	Swedish Civil Contingencies Association
NAP	National Action Programme
NAPA(s)	National Adaptation Programme(s) of Action
NDDCF	National Drought and Disaster Contingency Fund
NDMA	National Drought Management Authority (Kenya)
NEMA	National Emergency Management Agency (Nigeria)
NEPAD	New Partnership for Africa's Development
NGOs	Non-governmental organisations
NP(s)	National Platform(s) for DRR
NPCA	NEPAD Planning and Coordination Agency
NRM	Natural Resource Management
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
OFDA	Office of United States Foreign Disaster Assistance
OpenDRI	Open Data for Resilience Initiative
OSS	Sahara and Sahel Observatory
Oxfam GB	Oxfam Great Britain
Periperi U	Partners Enhancing Resilience to People Exposed to Risks
PFS	Pastoralist Field School
PoA	Extended Programme of Action/ Programme of Action (for the Implementation of the Africa Regional Strategy for Disaster Risk Reduction (2006-2015))
PSNP	Productive Safety Nets Programme (Ethiopia)
PRSP	Poverty Reduction Strategy Papers
RCOFs	Regional Climate Outlook Forums
RCMRD	Regional Centre for Mapping of Resources for Development
RC/RC	Red Cross Red Crescent
RDD	Regional Drought Decisions
REC(s)	Regional Economic Community/ Communities

RIC(s)	Regional Implementing Centre(s)
RMAs	Regional Monetary Alliances
RMS	Resource Management System
RoA	Regional Office for Africa (UNISDR)
SADC	Southern African Development Community
SADNET	Southern Africa Drought Technology Network
SAFIRE	Southern Alliance for Indigenous Resources
SARCOF	South Africa Regional Climate Outlook Forum
SASDiR	Southern Africa Society for Disaster Reduction
SCF	Save the Children
SHARE	Supporting Horn of Africa Resilience Initiative (EC)
SIDA	Swedish International Development Cooperation Agency
UEMOA	Economic and Monetary Union
UN	United Nations
UNCBD	United Nations Convention on Biological Diversity
UNCCD	United Nations Convention to Combat Desertification
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
UNECA	United Nations Economic Commission for Africa
UNEDRA	University Network for Disaster Risk Reduction in Africa
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
UN-Habitat	United Nations Human Settlements Programme
UNICEF	United Nations Children's Fund
UNISDR	United Nations Office for Disaster Risk Reduction
UNOSAT	United Nations Institute for Training and Research (UNITAR)'s Operational Satellite Applications Programme
UMA	Union of Arab Maghreb
USAID	United States Agency for International Development
VSF	Vétérinaires Sans Frontières
WANEP	West Africa Network of Peace Building
WASH	Water, Sanitation and Hygiene
WFP	World Food Programme
WHO	World Health Organization
WMO	World Meteorological Organization

EXECUTIVE SUMMARY

Disasters in Africa are evolving in geography, frequency and impact. Since 2011, 147 recorded disasters – including 19 droughts and 67 flood events – affected millions across Africa and caused US$ 1.3 billion in economic losses[1]. On average, almost two disasters of significant proportions have been recorded every week in the region since 2000[2]. Few of these ever make the global headlines but they continually and persistently erode the capacities of Africans to survive or prosper.

Between 2001 and 2010, an average of 125 events occurred in Africa each year, the largest proportion of which were hydro-meteorological (floods or wet mass movement). Although hydro-meteorological events are typically responsible for one third of the total economic damage by disasters in Africa, over the past two years alone, they have caused 90% of the economic losses.

Judging by the number of fatalities, however, biological hazards are ravaging the continent in much greater numbers than other hazards. For example, 5 out of 7 of the total deaths (averaging 6,833 each year) are due to epidemics.

Multiple and interdependent types of vulnerability have the potential to transform even minor hazards in Africa into human disasters. Around 400 million people on the continent live below the poverty line[3] and 200 million people are considered to be under-nourished[4]. Income, poverty and food insecurity play major roles in land degradation, as the poor and hungry are forced to over-exploit natural resources in order to meet their immediate and basic needs for survival.

Also, poor health status and in particular the high prevalence rates of HIV/AIDS in parts of the region significantly increase the underlying vulnerability of the population to natural hazards. Both vulnerability and hazard occurrences are subject to dynamic global forces such as urbanisation and climate change, which are creating new patterns of disaster risk in the region.

Africa is also experiencing the highest rate of urbanisation in the world. Almost 40% of Africans now live in cities or urban environments and, if current trends persist, half of Africa's population will be living in urban areas by 2050.[5] Rapid, unplanned urbanisation, including the alarming growth rate of urban slums, is creating dangerous patterns of risk accumulation and exposing an increasingly large proportion of the population to floods, landslides, epidemics and other hazards.

[1] EM-DAT: The OFDA/CRED International Disaster Database – www.emdat.be – UniversitéCatholique de Louvain – Brussels – Belgium.

[2] For a disaster to be entered into the CRED database, at least one of the following criteria must be fulfilled: 10 or more people reported killed; 100 or more people reported affected; declaration of a state of emergency; or a call for international assistance.

[3] Chen, S. and Ravallion, M. 2008. *The developing world is poorer than we thought, but no less successful in the fight against poverty*, World Bank.

[4] Kidane, W. Maetz, M. and Dardel, P., 2006. *Food security and agricultural development in Sub-Saharan Africa: Building a case for more public support*, FAO, Rome.

[5] UN-Habitat State of the World's Cities 2008/09.

Global climate change will significantly affect the risk profile in Africa. In 2012 alone, over 34 million Africans were affected by climatological hazards such as drought and extreme temperatures. Climate change also exacerbates other hazards such as storms and disease transmission as well as existing vulnerabilities. It likewise triggers decreased water availability, agricultural yields and suitable land for pasture, all of which threaten the viability of traditional livelihoods.

Climate change also poses a real threat to the inhabitants of coastal cities. Half of Africa's 37 cities with populations above one million are situated in low-elevation coastal zones and are vulnerable to sea level rise, coastal erosion, storms and flooding.

The Regional Level

At the 10th meeting of the Africa Ministerial Conference on the Environment (AMCEN) in 2004, Member States of the African Union (AU) first demonstrated their commitment to disaster risk reduction (DRR) by adopting the Africa Regional Strategy for Disaster Risk Reduction. The Programme of Action for the Implementation of the Africa Regional Strategy for DRR (2005-2010) was subsequently formulated and adopted at the 1stAfrican Ministerial Conference on DRR in Addis Ababa in 2005. A revision was discussed and agreed upon at the 2ndAfrica Regional Platform (AfRP, 2009) in Nairobi in May 2009 in order to better reflect current challenges and gaps, and extend the timeframe to 2015 and align it with the HFA.

The AfRP 2009 also agreed on strengthened regional, sub-regional and national mechanisms that are intended to accelerate implementation of the Programme. The Extended Programme of Action for the Implementation of the Africa Regional Strategy for Disaster Risk Reduction (2006-2015) was subsequently adopted at the 2nd African Ministerial Conference on Disaster Risk Reduction in April 2010.

At the regional level, Africa has made great strides in following the 18 recommendations at the 2ndAfrican Ministerial Conference on DRR (Figure 2). In terms of institutions, the National Platform toolkit was updated and 19 National Platforms were reviewed. The Africa Working Group for DRR was established in 2011 and is now operational. Several Regional Economic Communities (RECs) have established DRR units. UNISDR has facilitated DRR expertise to the African Union Commission (AUC) and has received and analysed the reports of a total of 37 different African countries since 2005. UNISDR has also drafted a study to explore cost effectiveness of DRR in the Health and Education Sectors.

Across the region, there is a positive trend in the establishment or reform of **institutional, legislative and policy frameworks** for DRR, particularly for member countries of the Intergovernmental Authority on Development (IGAD) and the East African Community (EAC). In some cases, however, the lead institution for DRR does not yet bear sufficient influence upon all relevant sectors of government.

The Sub-Regional Level

A number of RECs have made institutional advances in DRR. No less than five of these – the Economic

Community of Central African States (ECCAS), the Economic Community of West African States (ECOWAS), IGAD, the Southern Africa Development Community (SADC) and EAC have developed DRR policies and/or defined strategies with UNISDR support based on the Priorities for Action of the HFA and the ARSDRR objectives, both of which are aligned (Figure 3).

Recent achievements include the creation of the ECOWAS Early Warning and Response Network (ECOWARN) as well as initiatives by the Sahara and Sahel Observatory (OSS) for South-South cooperation – all of which build on successful experiences from within the African region.

Specialised sub-regional institutions, such as the IGAD Climate Prediction and Applications Centre (ICPAC), the Southern African Development Community's Drought Monitoring Centre (SADC DMC), the Regional Centre for Agro Meteorology and Operational Hydrology (AGRHYMET)[6] Regional Centre and the African Centre of Meteorological Application for Development (ACMAD) are responding to major global and regional challenges through enhanced services for DRR and climate change adaptation (CCA). The Common Market for Eastern and Southern Africa (COMESA), SADC and EAC have joined forces to launch a five-year Climate Change Adaptation and Mitigation program that seeks to harmonise the Corporate Council on Africa practice by the three RECs and to increase investments in climate resilience.

Decentralised models of governance and administration are in place in most countries of the region, thus providing a potentially effective structure for multi-level DRR.
Yet, the majority of countries still lack resources and capacity to engage with communities at risk or implement local initiatives.

The National Level

Governments in Africa have moved forward with the implementation of the HFA Priorities for Action and related regional objectives.

Notwithstanding the establishment of **National Platforms** and similar, multi-sectoral coordination mechanisms for DRR in 38 countries (Figure 4), there is as yet insufficient involvement of representatives of civil society organisations, UN agencies, media and the private sector in many of these models.

In terms of **risk identification and assessment,** many countries have advanced significantly. Countries like Ethiopia have undertaken major risk assessments to produce risk profiles at the lowest administrative units in order to inform DRR planning and early warning mechanisms. African universities have been key players in the assessment process, such as that undertaken in Mozambique. To date, trans-boundary assessments and systems are the weakest links in risk identification.

Public awareness and knowledge management strategies for DRR are flourishing across the continent but there are major gaps in developing research tools for DRR.

[6]Agro-meteorology and Operational Hydrology and Their Applications

With respect to public **education**, a growing number of countries have already integrated DRR into their educational curricula (Madagascar, Sierra Leone and Mauritius are rising stars), but there remains much work to do. However, a comprehensive report has been drafted on the impact of DRR in schools and there is a growing movement to establish university degree programs with a concentration on disaster risk science and sustainable development.

Greater recognition of the relationship between poverty and vulnerability to natural hazards has resulted in the incorporation of DRR objectives into an increasing number of sectoral development policies and plans that seek to address **underlying risk factors** in Africa. Strategies to implement such policies are included in the Poverty Reduction Strategy Papers (PRSP) and United Nations Development Assistance Framework (UNDAF) of some countries of the region.

However, most governments are not yet implementing effective programmes to reduce the **underlying risk factors of disasters due to financial constraints or limited technical and operational capacities**. Also, development strategies in many countries are not keeping pace with physical and **demographic growth in informal, unplanned urban settlements where multiple risk factors are present**. Urgent and coordinated action is required to tackle the underlying causes of vulnerability to disasters as well as to track vulnerability through monitoring of each hazard.

In terms of **preparedness for effective response and recovery,** institutional capacities have been strengthened in most countries as a result of emergency planning exercises, contingency funding mechanisms and improved information management systems. This is one of the highest performing indicators of reporting countries. Despite this strengthening in most countries, emergency preparedness could still be improved significantly through the participation of a **broader stakeholder base in both planning and evaluating responses.**

In terms of international cooperation, there is support for a number of HFA Priorities but as yet little attention has been paid to ensure that DRR programs meet the needs of national governments in terms of final products that are genuinely 'owned' by those governments.

It is now essential for donors, civil society and above all national governments and regional institutions to seize the momentum documented in this status report by supporting and contributing to take action at the highest levels (Figure 3).

To effectively address the above-mentioned issues at regional, sub-regional and national levels, all stakeholders are called upon to accelerate implementation of the ARSDRR in concert with the HFA

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REPORT STRUCTURE AND CONTENT

Purpose and structure

Research to the report on the Status of Disaster Risk Reduction in Africa, 2013 provides the following information:

- summaries of the disaster risk profile of Africa, including recent trends and emerging challenges (Chapter 2);
- assessments of the progress of Africa DRR initiatives in line with the recommendations made by the Ministerial Declaration to the African Union Summit in 2010 (Chapter 3);
- review of the progress of African sub-regional institutions towards the integration of DRR into their strategies, policies and programmes (Chapter 4);
- analysis of recent progress in Africa towards the national implementation of agreed DRR goals, in particular the priorities of the African Regional Strategy for Disaster Risk Reduction and the HFA (Chapter 5);
- provision of an in-depth review of DRR progress made on thematic issues that are key to the African continent such as drought and urban risk (Chapter 6);
- provision of an overview of recent and current initiatives of some DRR partners (Chapter 7); and
- recommendations of actions and key areas for investment to accelerate the implementation of DRR in Sub-Saharan Africa, including a revised Programme of Action for the Implementation of the Africa Regional Strategy for Disaster Risk Reduction (Chapter 8).

Data sources

Chapters 1 and 2 are based on secondary data from a wide range of sources. Statistical data is drawn primarily from reports by the World Bank, UN agencies and partners as well as the Centre for Research on the Epidemiology of Disasters (CRED), and further complemented by data from non-governmental organisations (NGOs), academic institutions and independent researchers. Efforts have been made to verify and triangulate the data used.

Chapter 3 is based on an analysis of published policies, strategies and programmes of regional and sub-regional institutions engaged in DRR initiatives in Africa. The published information was updated using written and transcribed verbal reports received directly from the institutions concerned.

Chapter 4 contains information that derives largely from an AU draft report on DRR progress made at regional and sub-regional levels as of early-Dec 2012. This information is complemented by the study of official websites of RECs and

Regional Implementing Centres (RICs), and key informant interviews where necessary.

Chapter 5 is based on available HFA Monitoring reports provided by participating African countries over the past three reporting periods. It is important to emphasise that the HFA Monitor uses a self-assessment methodology. While this methodology encourages ownership of the monitoring results, it has no validation or control system in effect to curb bias. It is assumed that countries have produced and submitted their reports 'in good faith', in the interests of generating an authentic analysis of national progress. Although parameters for reporting criteria and scoring were provided, a certain level of inconsistency is also to be expected from a self-assessment methodology.

Additional sources were also used for Chapter 5, in order to complement data provided by countries and to facilitate more detailed information for examples included in the boxes .These include general development assistance planning and poverty reduction strategies, such as PRSPs and UNDAFs, and sectorial strategic plans such as National Adaptation Programmes of Action (NAPAs) for climate change, to assess mainstreaming of disaster risk reduction, as well as published reports and documents, and relevant tools and guidance notes.

Chapter 6 is derived from UNISDR and partner literature that highlight thematic trends in Africa. While not an academic report, this chapter provides the state-of-the-art in disaster risk thinking regarding drought and urban risk.

Chapter 7 is based on information provided by DRR practitioners. A form was distributed widely to donors, NGOs and United Nations entities upon which to make an inventory of their efforts in Africa, categorized by ARSDRR objectives and HFA Priorities. Although complemented by a secondary data review, the results presented in this chapter are not exhaustive. UNISDR encourages all international organisations engaged in DRR initiatives in Sub-Saharan Africa to share information about their activities, in order to improve inter-agency coordination and collaboration.

CHAPTER 1: CONTEXT, OBJECTIVES AND METHODOLOGY

This chapter serves as an introduction to the present report on the Status of Disaster Risk Reduction in Africa, 2013, which focuses on the 54 countries that comprise the 'region' of Africa.

1.1 THE TOLL OF DISASTERS ON AFRICA

Disasters continue to take a harsh toll on the nations and communities of Africa. In 2012 alone, over 37 million people in the region were directly affected by a total of 147 recorded disasters. In 2011, disasters claimed the lives, health, livelihoods or homes of 31.5 million people. In both of these years, drought alone was responsible for over 90% of those affected[7].

In addition to the human and social consequences of disasters, there are also devastating economic costs. Annual losses between 2001 and 2010in Africa averaged over US$ 1 billion[8]. Disasters impede economic growth in the region and divert precious resources from investment in development, thereby perpetuating a persistent cycle of poverty and vulnerability.

In Africa, where food insecurity, environmental degradation and poor human health create a web of inter-connected vulnerabilities, even minor hazards can trigger disasters. Global climate change is altering the face of certain hazards in the region as well as exacerbating the vulnerability of many traditional livelihoods.

Trends such as unplanned urbanisation are increasing exposure to hazards and exacerbating existing vulnerabilities, thereby creating concentrated risks in urban centres across the region. A more detailed analysis of these disaster risks and impacts is presented in Chapter 2.

1.2 INSTITUTIONAL AND POLITICAL CONTEXT FOR DISASTER RISK REDUCTION IN AFRICA

Concerted efforts to reduce the risk of disasters have been gathering pace in Africa over the past decade.

In 2004, the AU, together with the New Partnership for Africa's Development (NEPAD) Planning and Coordination Agency (NPCA)[9], developed the ARSDRR, with the support of UNISDR and in cooperation with United Nations Development Programme (UNDP) Bureau for Crisis Prevention and Recovery, the United Nations Environment Programme (UNEP) and the African Development Bank (AfDB). The Strategy was endorsed at the 10th Meeting of AMCEN and was favourably noted by the Assembly of the AU in July 2004, which called for the formulation of a PoA for the Implementation of the Strategy. The 1stAfrican Ministerial Conference on DRR endorsed the PoA for 2006-2010, which was adopted by the Executive Council of the AU in January 2006.

[7] Source: 'EM-DAT: The OFDA/CRED International Disaster Database, www.emdat.be – Université Catholique de Louvain - Brussels - Belgium', Created on: Jan-16-2013. - Data version: v12.07.
[8] Ibid.

[9] In February 2010, the 14th AU Assembly established the NPCA as a technical body of the AU to replace the NEPAD Secretariat.

Several of the eight RECs recognised by the African Union Commission (AUC) have subsequently created sub-regional strategies, policies and dedicated institutions or units for DRR. Some of these have formed collaborative partnerships with donors, the UN and civil society organisations and are already implementing their plans. DRR progress made by the RECs and implementing partners (some being the Regional Implementing Centres (RICs)) is described in Chapter 4.

In 2010, the 3rdAfrica Regional Platform on DRR and the 2ndAfrican Ministerial Conference on DRR were held and produced the Extended Programme of Action for DRR (2006-2015) in the region. In 2011, the African Working Group was reconstituted; they held their third meeting of core members in April, 2013.

These initiatives reflect global efforts to deepen understanding and acceptance of the importance of DRR. Following the International Decade for Natural Disaster Reduction from 1990-1999 and the subsequent launch of the International Strategy for Disaster Reduction in 2000, the 2002 World Summit on Sustainable Development in Johannesburg, South Africa reinforced awareness of the need for DRR in order to secure sustainable development. At the World Conference on Disaster Reduction in Kobe, Japan in 2005, 168 countries adopted the Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities (HFA), which calls for the pursuit of three strategic goals for the substantial reduction of disaster losses and reduced impact on the social, economic and environmental assets of communities and countries. The HFA further establishes five areas of priority for local, national and international action to reduce disaster risk. The HFA and the ARSDRR (and its six Objectives) have complementary goals and mutually reinforcing priorities albeit with slight variations in their timeframes for implementation and the structure of their objectives.

While states are acknowledged to have primary responsibility for investing in and undertaking DRR at the national level, the ARSDRR and the HFA call upon regional and international organisations, in collaboration with civil society and other stakeholders, to cooperate in their implementation. UNISDR is mandated to coordinate the implementation of the HFA, which is aligned with the complementary priorities of the ARSDRR in Africa. In coordinating the implementation of the HFA in Africa, UNISDR Regional Office for Africa works with partners, in particular the Inter-Agency Group on DRR, who work together to ensure actions, including the development of policy tools, guidelines and monitoring indicators, facilitate progress in line with the HFA and ARSDRR.

1.3 Opportunities in Africa: Why We Need to Invest in DRR

According to the International Fund for Agricultural Development (IFAD[10]), six of the world's ten fastest growing economies between 2001 and 2010 were those of African nations. Seven of the top ten nations forecasted to be the fastest growing economies by 2015 are Sub-Saharan countries (Table 1).Growth in North African countries is characterized by a mix of both strong growth and low growth years.

[10]IFAD, 2011.Sub-Saharan Africa, The State of Smallholders in Agriculture. http://www.ifad.org/events/agriculture/doc/papers/livingston.pdf

Table 1: World's 10 Fastest Growing Economies[11] (annual average) GDP growth, %)

2001-2010		2011-15 forecast	
Angola	11.1	China	9.5
China	10.5	India	8.2
Myanmar	10.3	Ethiopia	8.1
Nigeria	8.9	Mozambique	7.7
Ethiopia	8.4	Tanzania	7.2
Kazakhstan	8.2	Vietnam	7.2
Chad	7.9	Congo*	7.0
Mozambique	7.9	Ghana	7.0
Cambodia	7.7	Zambia	6.9
Rwanda	7.6	Nigeria	6.8

***Republic of Congo**

This data provides even more reason to protect these investments and to ensure that the benefits of this growth reach those most at risk of disasters.

A significant factor in Africa's capacity for growth is its size. The combined area of 18 of the world's largest countries (such as China, the United States, India, Mexico and Peru) still does not match the continental span of Africa: 30.1 million km^2 (Figure1).

Figure 1: The magnitude of Africa

[11] Excluding countries with less than 10m as well as Iraq and Afghanistan

Another opportunity for Africa is the exponential growth of its communication infrastructure, particularly with regard to cellular phone coverage, presenting significant implications for collecting and sharing information and warning messages. Solar-powered technologies (including computers and tablets) are expected to drive demand and increase infrastructure capacity when these become accessible at affordable prices to those African communities that still live off the communications grid. These hold immense promise for primary and tertiary education, including DRR applications.

Despite Africa's size, its wealth of natural resources and promising economic growth, many studies have forecasted the negative impacts of disasters and climate change on African economies if adaptation and DRR are not made political priorities. Statistics reveal that natural disasters contribute between 3 %and 15 % of annual loss of gross domestic product (GDP) in African countries[12].

The Integrated Assessment Model (IAM) findings on the economic costs of climate change in Africa demonstrate an estimated reduction in annual GDP of African countries ranging 1.5 % to 3% by 2030[13].Further, the PAGE model[14]

[12] http://www.afdb.org/en/cop/programme/climate-change-vulnerability-and-disaster-risk-reduction/

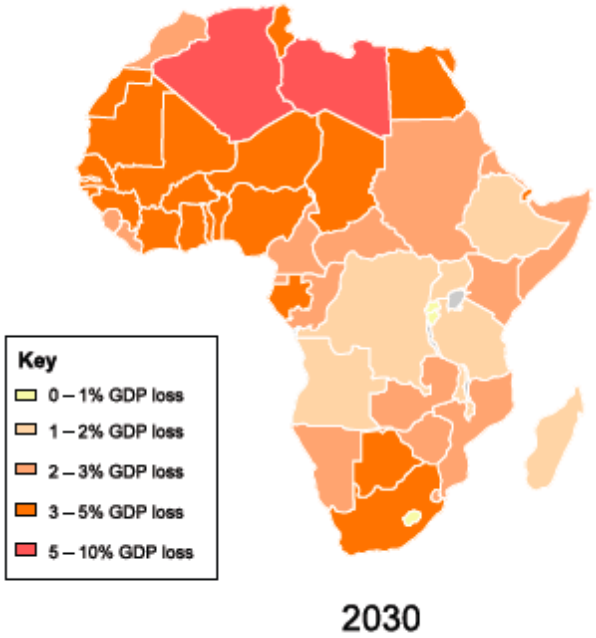
[13] The WeAdapt effort is supported by the World Bank, Netherlands, DFID and SDC invested in a thorough exploration of the cost of climate change in three African studies: Mozambique, Ghana and Ethiopia. http://static.weadapt.org/knowledge-base/files/757/4e257723bb88dKigali_Policy_Brief_2_-_economic_costs_vs_4.pdf

[14] Policy Analysis of the Greenhouse Effect (PAGE) projects future increases in global mean temperature (GMT), the economic costs of damages caused by climate change, the economic costs of mitigation policies and adaptation measures.

used in the Stern review estimates that climate change could lead to annual losses amounting to 2% of GDP in Africa countries by 2040 if no adaptation efforts are undertaken.

Similarly, the FUND model[15] estimates an annual loss of 2.7% of GDP attributable to climate change in Africa countries by 2025 (central value including market and non-market sectors). The model reports large economic costs from change in water resources, health impacts and energy costs for cooling, but some potential benefits for agriculture. The effects vary strongly within the region as shown in the estimated values for each country in Africa for the year 2030(Figure 2[16]).

Figure 2:Annual costs of climate change as a fraction of GDP



These three models provide only partial coverage of the effects of climate change and do not capture extreme events (including flooding), other disasters, cross-sectored links, socially contingent effects or the cumulative effects and impacts on adaptive capacity.

More concretely, Angola's disappearance from the forecasted list of fastest growing economies can be partially explained by very high rates of mortality due to biological hazards that were first registered in 2006. In addition, by 2009 Angola's high GDP growth was already below 3%, due in part to the liquidity crisis caused by a drop in world oil prices. Nigeria's GDP growth has reduced from over 10% in 2003 and 2004 to below 7% over the last two years. In the intervening period, the country witnessed a spike in disasters and registered a very high number of deaths linked to hydrological, meteorological and biological disasters, and experienced the highest economic damage across the continent in 2010.

Other countries experience erratic and fluctuating trends in their GDP growth in step with the frequency of hazards that they experience. Building resilience through DRR that systematically reduces hazards common to climate change variability is the only way to safeguard both growing economies and household livelihoods. In order to achieve this, the new generation of African DRR experts must be equipped and posed to navigate this uncertainty.

[15]The Climate Framework for Uncertainty, Negotiation and Distribution (FUND) is an integrated assessment model of climate change that serves as a test-bed for studying impacts of climate change in a dynamic context.
[16]FUND national model

CHAPTER 2: DISASTER RISK DRIVERS IN AFRICA

In 2009, the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) and CARE assessed the humanitarian implications of climate change with a particular focus on storms, flooding and drought[17]. Risk hotspots, determined by the overlap of high human vulnerability and the distribution of weather-related hazards, were evident above all in Sub-Saharan Africa.

These resultsfolloweda2006 World Bank global disaster risk assessment, published in a report called 'Natural Disaster Hotspots: A Global Risk Analysis'[18]. The report concluded that of all the regions in the world, Africa was most at risk of disasters.

On disaster risk in the African context, this chapter presents an overview of disaster occurrences in Africa and an analysis of the major factors driving disaster risk across the region.

This chapter provides a representative summary of the most significant components and consequences of disaster risk in Africa. In order to harmonise the application of terminology across countries and regions, this chapter uses UNISDR terminology, a summary of which is included in Box 1.

Box 1: Selected definitions from UNISDR Terminology on Disaster Risk Reduction (2009)

Disaster
A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources.

Disaster risk
The potential disaster losses, in lives, health status, livelihoods, assets and services, which could occur toa particular community or a society over some specified future time period.

Hazard
A dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage. *Hazards of concern to DRR, as stated in footnote 3 of the HFA are '…hazards of natural origin and related environmental and technological hazards and risks'*

Exposure
People, property, systems or other elements present in hazard zones that are thereby subject to potential losses.

Vulnerability
The characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard.

Climate Change
(a) The Inter-governmental Panel on Climate Change (IPCC) defines climate change as 'a change in the state of the climate that can be identified (e.g. by using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forces or to persistent anthropogenic changes in the composition of the atmosphere or in land use'.
(b) The United Nations Framework Convention on Climate Change (UNFCCC) defines climate change as 'a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods'.

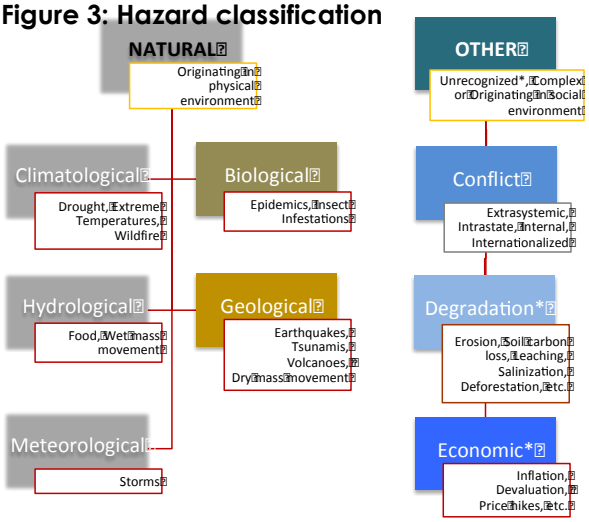
Source: http://www.unisdr.org/eng/terminology/terminology-2009-eng.html

[17]Enhart, C., Thow, A., de Blois, M. and Warhurst, A. 2009. *Humanitarian Implications of Climate Change: Mapping emerging trends and risk hotspots* http://www.careclimatechange.org/files/reports/CARE_Human_Implications.pdf

[18]Dilley, M., Chen, R. and Diechmann, U., 2006.*Natural Disaster Hotspots: A Global Risk Analysis.* World Bank.

The classification of disasters applied in CRED's International Disaster Database EM-DAT, has also been adapted to correspond to UNISDR terminology, as summarised in Figure 3. It has also been expanded to include conflict-related disasters and environmental degradation as a major component of the disaster risk profile in Africa.

Figure 3: Hazard classification



Notes: Hazard classification, adapted from CRED to correspond with African risk profiles and UNISDR terminology

*Unrecognised to date as triggering a specific humanitarian disaster (often relegated to the realm of development)

2.1 Trends in DisasterRisk

According to the CRED EM-DAT database, between 1990 and 2012, Africa experienced on average 152 disasters per year, the majority of which were triggered by hydrological and climatologically hazards.

In 2012, 111 disasters were reported[19] in Africa. Setting aside those classified as accidents (industrial, transport or miscellaneous), approximately 37% were triggered by floods, 25% by droughts and 19% by epidemics.

In 2012, the most deadly hazards on the continent of natural origin were epidemics killing 548 in Democratic Republic of the Congo (DRC), 135 in Uganda and 97 in Niger, followed by floods which were fatal for 148 in Nigeria, 69 in Algeria and 68 in Niger.

In the same year, more than 37 million Africans were affected by disasters triggered by natural hazards. The disaster with the greatest impact was caused by drought (affecting 5.8million in Ethiopia, but also large numbers in Kenya, Mali, Sudan, Somalia, Burkina Faso, Chad and other countries).

During the same year, floods affected over two million Africans. The largest numbers of flood affected areas were found in Chad, Niger, Kenya, South Sudan and Nigeria. Further, storms affected 456,800 Africans in 2012, mainly in Madagascar and Mozambique.

2.2 Natural and Other Hazards of the Region

The countries of Africa span diverse topographical, geological, hydrological and climatic conditions and are subject to a wide range of natural and other hazards. These are described in the following summary and illustrated in Table 2 below.

[19] EM-DAT: The OFDA/CRED International Disaster Database, www.emdat.be accessed 15 Jan 2013.

Table 2: Disasters in Africa 2011-2012 and Annual Averages (2001-2010) by Type and REC

No. of Events	CEN-SAD (N=23)	COMESA (N-19)	EAC (N=5)	ECCAS (N=10)	ECOWAS (N=15)	IGAD (N=7)	SADC (N=15)	UMA (N=5)	AFRICA (N=54)
Hydrological: 2011-2012	**22**	**20**	**13**	**13**	**18**	**9**	**25**	**3**	**67**
Ann. avg. 2001-2010	27	16	8	8	18	13	12	5	50
Meteorological: 2011-2012	**5**	**8**	**2**	**4**	**1**	**2**	**12**	**0**	**19**
Ann. avg. 2001-2010	4	4	1	1	3	1	5	0	10
Climatological: 2011-2012	**15**	**13**	**5**	**3**	**9**	**10**	**8**	**4**	**33**
Ann. avg. 2001-2010	7	7	3	2	4	5	6	1	18
Biological: 2011-2012	**13**	**9**	**3**	**14**	**9**	**2**	**7**	**0**	**28**
Ann. avg. 2001-2010	23	14	5	10	15	10	12	0	42
Geophysical: 2011-2012	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Ann. avg. 2001-2010	1	2	1	1	0	1	1	1	5
TOTAL: 2011-2012 (2 years)	**55**	**50**	**23**	**34**	**37**	**23**	**52**	**7**	**147**
Ann. avg. 2001-2010	62	3	17	22	39	30	36	7	125

Fatalities	CEN-SAD (N=23)	COMESA (N-19)	EAC (N=5)	ECCAS (N=10)	ECOWAS (N=15)	IGAD (N=7)	SADC (N=15)	UMA (N=5)	AFRICA (N=54)
Hydrological: 2011-2012/12	**535**	**192**	**199**	**176**	**483**	**165**	**378**	**79**	**1221**
Ann. avg. 2001-2010	358	299	116	96	222	282	146	163	887
Meteorological: 2011-2012	**32**	**202**	**35**	**13**	**11**	**43**	**198**	**0**	**265**
Ann. avg. 2001-2010	42	91	1	7	21	14	95	3	150
Climatological: 2011-2012	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Ann. avg. 2001-2010	33	124	73	36	15	67	71	6	187
Biological: 2011-2012	**1736**	**1378**	**147**	**2566**	**1075**	**135**	**1244**	**0**	**3837**
Ann. avg. 2001-2010	2495	2035	376	1197	1968	677	2084	6	5254
Geophysical: 2011-2012	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Ann. avg. 2001-2010	945	32	10	22	1	32	24	291	246
TOTAL: 2011-2012 (2 years)	**2303**	**1772**	**381**	**2755**	**1569**	**343**	**1820**	**79**	**5323**
Ann. avg. 2001-2010	3022	250	574	1358	2235	1070	2419	468	6833

Damage (US$ million)	CEN-SAD (N=23)	COMESA (N-19)	EAC (N=5)	ECCAS (N=10)	ECOWAS (N=15)	IGAD (N=7)	SADC (N=15)	UMA (N=5)	AFRICA (N=54)
Hydrological: 2011-2012	**15.8**	**130**	**130**	**0**	**15.8**	**130**	**223**	**779**	**1 147.8**
Ann. avg. 2001-2010	147.4	72.0	4.0	0.7	104.1	20.3	79.3	93.2	297.7
Meteorological:2011-2012	**0**	**100**	**0**	**0**	**0**	**0**	**110**	**0**	**110**
Ann. avg. 2001-2010	24.1	36.5	0.1	0	48.1	.05	41.8	.05	90.0
Climatological: 2011-2012	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Ann. avg. 2001-2010	90.0	0	0	0	0	0	3.0	90.0	133.0
Biological: 2011-2012	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Ann. avg. 2001-2010	0	0	0	0	0	0	0	0	0
Geophysical: 2011-2012	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Ann. avg. 2001-2010	52.0	14.6	10.1	1.6	0	22	6.6	540.0	568.6
TOTAL: 2011-2012 (2 years)	**15.8**	**230**	**130**	**0**	**15.8**	**130**	**333**	**779**	**1 257.8**
Ann. avg. 2001-2010	313.5	123.2	10.1	2.3	152.3	42.3	170.8	723.2	1 089.3

Source: Compiled by UNISDR/L. Moriniere; Data: EM-DAT: The OFDA/CRED International Disaster Database Accessed 16 Jan 2013

2.2.1Climate Change and Climatological Hazards

Climate change is expected to have a significant impact on disaster risk in Africa. According to the Intergovernmental Panel on Climate Change(IPCC) Fourth Assessment Report, global climate change, caused by an increase in greenhouse gas emissions as a result of human activity, is predicted to have multiple effects the region characterized as 'one of the most vulnerable continents to climate change and climate variability[20]'.

Many semi-arid areas will suffer a decrease in water resources. By 2020, between 75 and 250 million people are projected to be exposed to increased water stress[21] due to decreases in precipitation and more frequent hot extremes as a result of climate change.

By 2025, water demand in several countries in the region, particularly in Northern Africa, will exceed 'their economically usable land-based water resources'[22].Associated projections for human health will include greater prevalence of diarrhoeal diseases and increased malnutrition.

The consequences for certain types of agriculture are also stark. By 2020, yields from rain-fed agriculture could be reduced by up to 50%. Agricultural production, including access to food in many African countries, is projected to be severely compromised. This would adversely affect food security and exacerbate malnutrition.

By the 2080s, millions more people are projected to experience floods every year due to rising sea levels. Low-lying mega-deltas such as the Niger, Limpopo and Okavango Deltas, and small islands such as Mauritius, Cape Verde, Comoros, Seychelles and Sao Tome & Principe, will be particularly vulnerable to such flooding. It is expected that tropical cyclones (typhoons and hurricanes) will become more intense, with larger peak wind speeds and heavier precipitation associated with increases of tropical sea surface temperatures.

Recent research[23] by the World Bank indicates that intensified storm surges and rising sea-levels associated with global climate change will significantly affect several coastal countries of Africa. According to this study, the total increase in surge zones will be greatest in Mozambique, Madagascar, Nigeria and Mauritania, although Côte d'Ivoire, Benin, Republic of Congo, Mauritania and Liberia will see the greatest percentage increases in comparison to current surge zones. More than one-half of the coastal population of Djibouti, Togo, Mozambique, Tanzania and Sudan will be subject to inundations due to the intensification of storm surges and rising sea-levels. The research also indicates that Mozambique, Ghana and Togo could lose more than 50% of their coastal GDP as a result of these hazards.

[20]IPCC 4th Assessment Report, 2007, http://www.ipcc.ch/publications_and_data/ar4/wg2/en/contents.html

[21]The European Environment Agency Glossary Definitions states: 'Water stress occurs when the demand for water exceeds the available amount during a certain period or when poor quality restricts its use... Water stress causes deterioration of fresh water resources in terms of quantity (aquifer over-exploitation, dry rivers, etc.) and quality (eutrophication, organic matter pollution, saline intrusion, etc.).' Source: www.eea.europa.eu/publications/92-9157-202-0/3.5.pdf

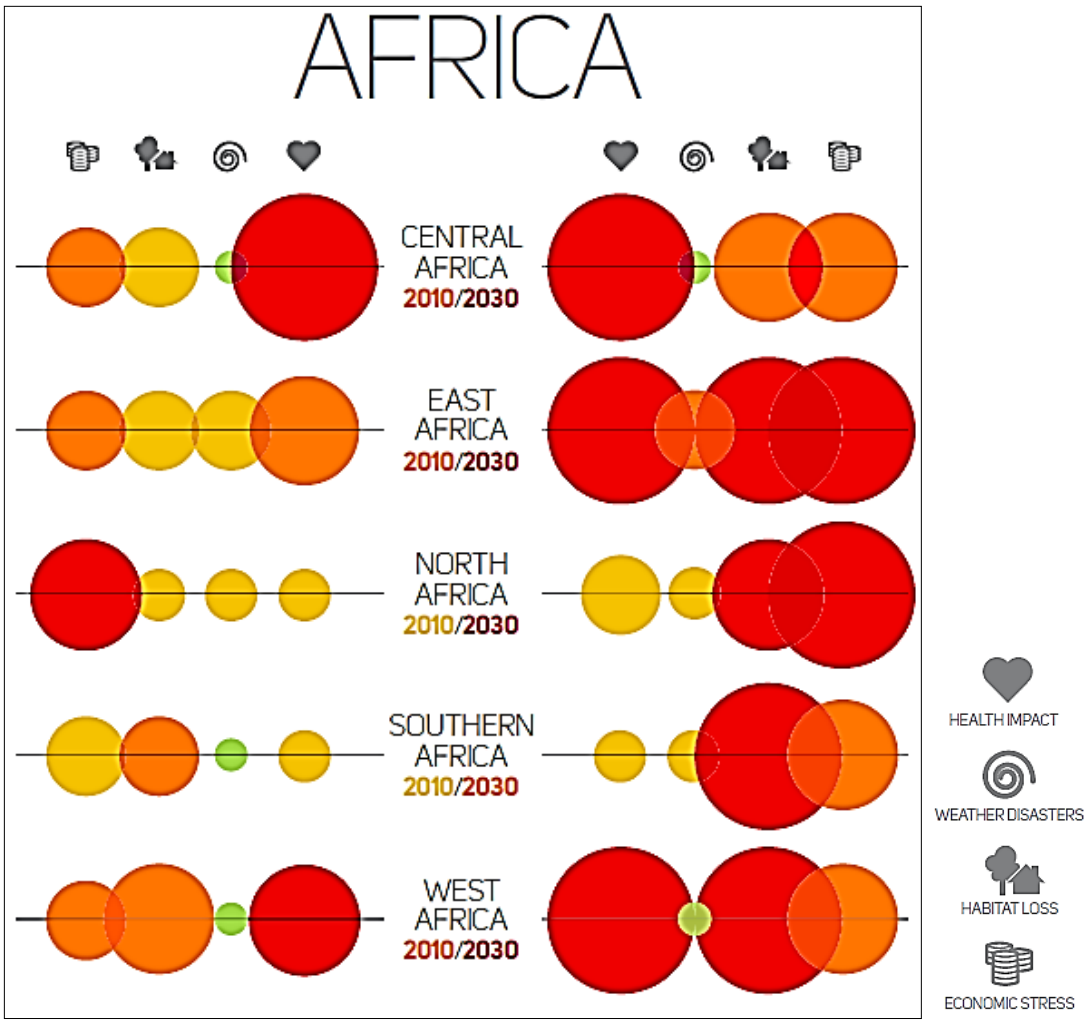
[22]IPCC 4th Assessment Report, 2007, http://www.ipcc.ch/publications_and_data/ar4/wg2/en/ch9s9-4-1.html

[23]Dasgupta et al, 2009. Sea-Level Rise and Storm Surges: A Comparative Analysis of Impacts in Developing Countries, World Bank, Policy Research Working Paper No. 4901.

The continent's coasts are projected to be exposed to increased risks including erosion due to climate change and rising sea levels. Given the large number of cities and a growing population that is located on or near the coasts, governments of affected countries are concerned as this exposure to risk could require an investment in adaptation amounting to 5-10% of their GDP. Three of the five regions determined to be at greatest risk of flooding in coastal and deltaic areas are found in Africa: North Africa, West Africa and Southern Africa[24].

Figure 4 depicts the distribution of possible impacts of climate change in Africa. All countries in Africa will need to adapt to new risk scenarios that include graver consequences for mortality and morbidity associated with natural hazard events. As adaptive capacity in Africa is considered to be low at the current time, a global effort will be required to meet the regional needs of this emerging challenge.

Figure 4: Climate impacts in Africa

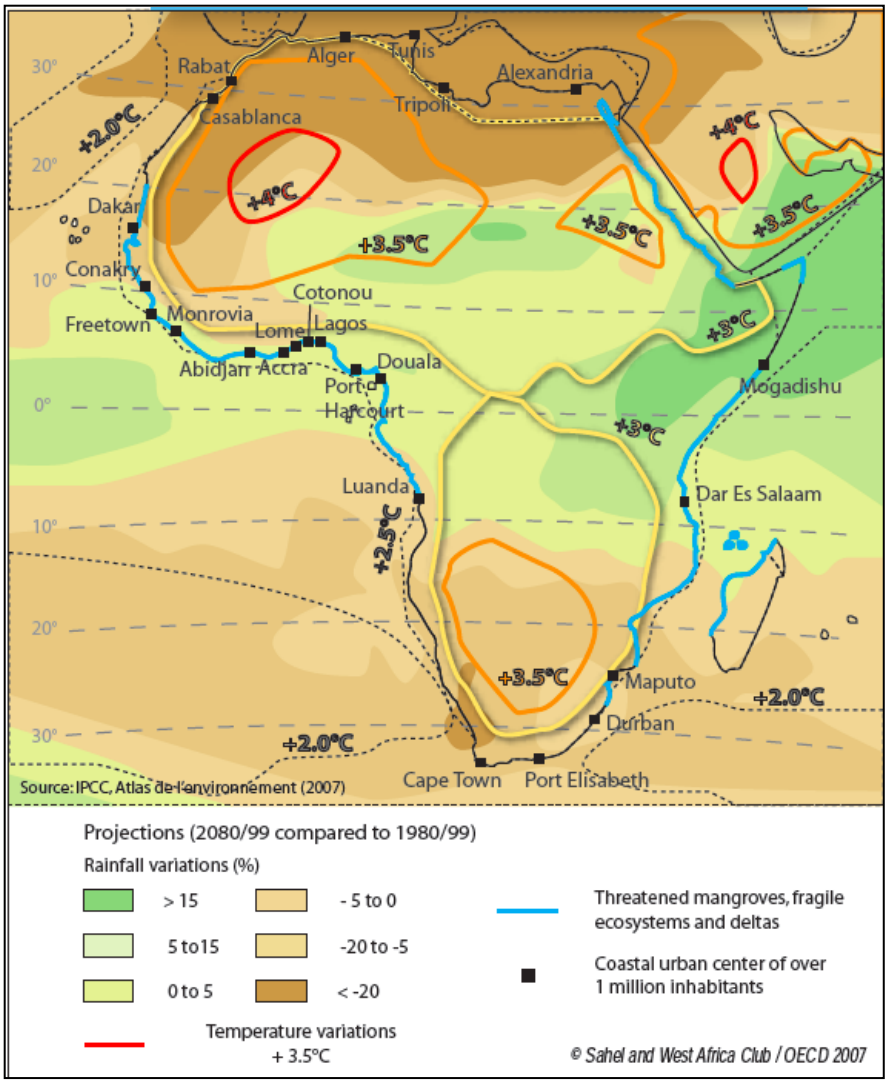


SOURCE: DARA, 2010. Climate Vulnerability Monitor

[24]Nicholls and Tol, 2006.

Figure 5 depicts the impact of climate change in Africa by region. The four impact areas are represented by an icon of a heart, a hurricane, a house and a grain silo. The bigger the corresponding circle and the closer the colour to bright red, the stronger is the climate change impact. Impacts are divided into present day (left) and a projection for 2030 (right). This illustration shows that all regions of Africa will be severely affected by a changing climate.

Figure 5: Conceivable overview of projected climate change in Africa



DROUGHT

Although definitions of drought and the causes of drought vary, there is reasonable consensus that *Meteorological drought results from a prolonged period of below average rainfall, which creates a shortage of available water.*

Agricultural drought occurs when the soil does not contain sufficient water to support average farming activity. Hydrological drought occurs when ground and surface water reserves fall below an established statistical average.

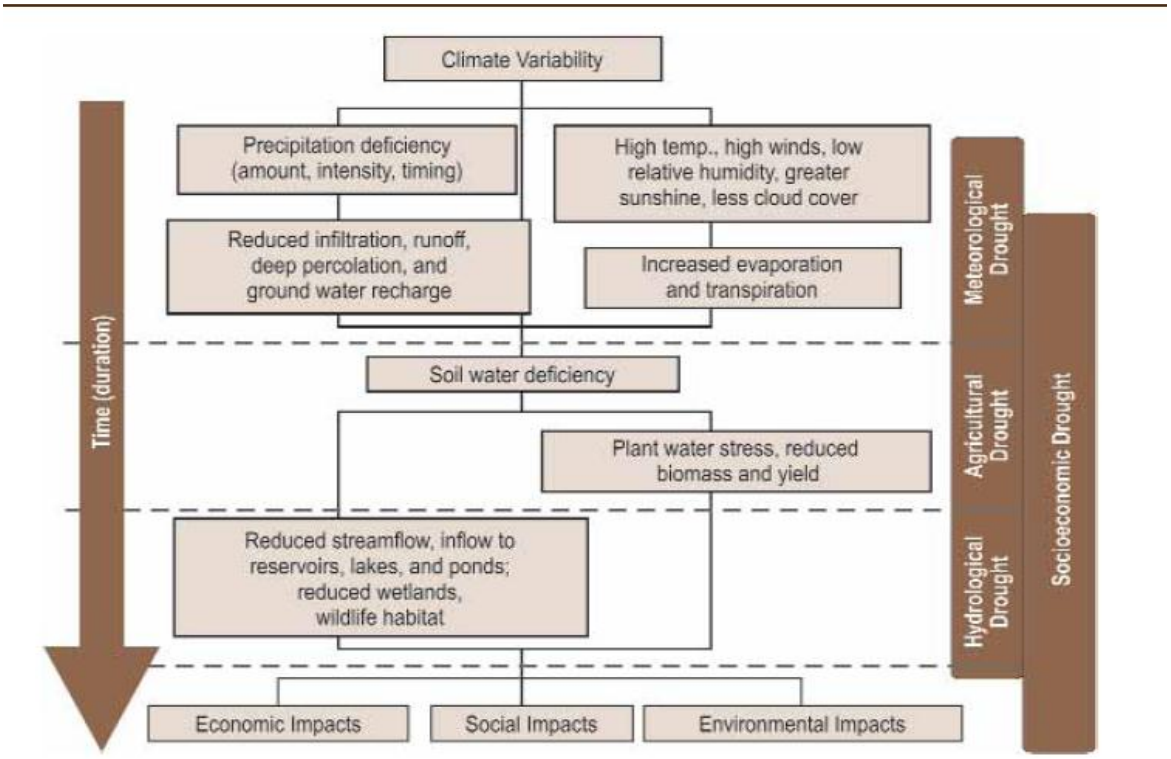
Socio-economic drought occurs when the demand for an economic good

(such as water, hydro-electric power, livestock forage) exceeds supply as a result of a weather-related shortfall in water supply.

The relationship between these conditions of drought is illustrated in Figure 6.

Drought is a normal, recurring feature of the climate, especially across Sub-Saharan Africa. In Southern Africa, drought has been linked to extreme manifestations of El Niño -Southern Oscillation (ENSO) phenomenon. Human-induced contributory factors, such as deforestation and desertification, have resulted in a reduction in rainfall and affected the ability of soil to hold moisture.

Figure 6: Relationships between types of drought



Source: Climate change and African Political Stability, http://ccaps.aiddata.org/

Droughts differ from other natural hazards in that they are slow-onset phenomena, which affect wide spatial areas for periods of months or years. This can result in a larger proportion of the population being affected by drought than by other disasters. In Africa, while droughts account for less than 15% of all disaster occurrences (of natural origin), they account for roughly 80% of all people affected, revealing the dependency of most people on water for their livelihood.

Droughts in Africa can create severe environmental, social and economic impacts. They exacerbate environmental degradation through deforestation, livestock overgrazing, soil erosion, wild fires, loss of biodiversity and over-extraction of groundwater resources (Box 2).

Box 2. Drought in Sahel in 2012

In 2012, UN agencies estimated that over 16 million people in Mali, Sudan, Niger, Burkina Faso, Senegal, Gambia and Chad were affected by drought. Drought reduced cereal production in the Sahel by 26 percent as compared to the previous year. Chad and Gambia experienced decreases of 50 percent in production and other countries suffered serious localized deficits.

The situation was compounded by high food prices and a decrease in remittances owing to the global economic crisis and the return of migrants from Libya. The deteriorating security situation in northern areas of the Sahel further aggravated the situation.

Source: FAO, http://www.fao.org/crisis/sahel/the-sahel-crisis/2012-crisis-in-the-sahel-region/en/

The reduced availability of potable water during droughts also tends to affect hygiene practices and negatively impact human health, increasing the prevalence of diseases such as cholera. It also places a greater burden on women and children who collect water for household consumption.

Drought-induced food shortages adversely impact the nutritional status of affected populations; and where adverse political or market conditions exist, drought can lead to famine.

The CRED database recorded a total of 35 million people killed or affected by climatological hazard events in Africa in 2012 and 29 million in 2011. The vast majority of these events were droughts. Nearly all climate change projections signal greater chances of severe droughts in Sub-Saharan Africa.

EXTREME TEMPERATURES

Definitions of heat waves and extreme cold weather based on meteorological thresholds vary by location, while the human response to extreme temperatures depends on an individual's state of health, acclimatisation and lifestyle. There are no consistent statistical records on losses caused by heat waves in Africa although cases are regularly reported in the news. CRED's EM-DAT reported that, since 2001, extreme heat killed 60 in Nigeria (June 2002) and 40 in Algeria (July 2003). Extreme cold weather affected 7,500 in Morocco (February 2012) and killed 22 in South Africa (May 2007). Extreme temperature hazards are estimated to account for approximately1% of total hazard occurrences in West Africa and Southern Africa.

2.2.2 Hydrological hazards

FLOODING

Flooding occurs mainly as a result of periods of high precipitation and as an inherent consequence of tropical cyclones and storm surges. Human-induced contributory causes include land degradation, deforestation of catchment areas as well as inadequate land use planning. Flooding may also be caused by deliberate discharges from river reservoirs.

Floods (and in particular flash floods, which are caused by tropical cyclones and severe storms) are among the most devastating natural hazards in Africa, causing loss of lives, livelihood assets and property. They also contribute to the spread of diseases such as malaria, dengue fever and cholera (Box 3).

Depending on the topographical and geological characteristics of certain areas, flooding can lead to landslides, mudslides and debris flows, particularly where land has been deforested.

According to the 2009 CARE/OCHA Humanitarian Implications of Climate Change report, Africa (particularly Sub-Saharan Africa) has the greatest concentration of flood risk hotspots (hazard and vulnerability coincident). The World Bank hotspots analysis confirms that African countries are at relatively high risk of mortality as a result of flooding, and at relatively lower risk in terms of economic losses, both in terms of absolute values and in proportion to GDP.

The CRED EM-DAT database reported that over two million people were killed or affected by hydrological disasters (the majority of which were floods) in Africa in 2012 and 1.4 million were killed in 2011.

Box 3: Floods in Nigeria, October 2012

At least 1.3 million Nigerians were displaced by flooding and 431 died in what authorities call the 'worst flooding in over 40 years'. An estimated 30 of the country's 36 states were affected by heavy rains, staring in July 2012y, according to the National Emergency Management Agency (NEMA).

Heavy rain submerged much of Delta and Bayelsa states in the southwest, affecting some 350 communities and making 120,000 people homeless (Nigerian Red Cross).

Suspected cholera cases were reported and the on-going flooding greatly increased the risk of cholera outbreaks.

SOURCE: IRIN news, http://www.irinnews.org/report/96504/NIGERIA-Worst-flooding-in-decades

2.2.3 Meteorological hazards

TROPICAL CYCLONES

Out of the 105 storms registered in EM-DAT between 2001 and 2013 in Africa, 43 of these were tropical cyclones. Although storm disasters were reported in 29 different countries, 25 of the tropical cyclones were registered in Madagascarwith7 recorded for Mozambique.

Tropical cyclones affecting Sub-Saharan Africa typically form in the Indian Ocean during the months of April to December.

Box 4: Cyclone Hubert in Madagascar

Cyclone Hubert hit the south-eastern coast of Madagascar on the night of 10 March 2010, killing 120 people and affecting nearly 200,000more.

According to the National Office for Management of Risks and Disasters (BNGRC), the cyclone's heavy rainfall also caused floods leaving over 38,000 people temporarily displaced and 54 dead. A total of 7 districts were affected. Some of the seven affected districts also experienced an outbreak of Chikungunya (a mosquito borne disease), compounded due to stagnant water. Transport infrastructure was badly damaged leaving most of the affected districts inaccessible by road.

The BNGRC has operated with limited resources since the 2009 political crisis in Madagascar.

Source: IFRC, http://www.ifrc.org/docs/appeals/10/MDRMG006.pdf

Due to the frequent combination of strong winds and heavy rainfall, cyclones are one of the most violent and destructive of all meteorological phenomena, causing substantial damage to dwellings, infrastructure and fisheries and causing significant displacement of households (Box 4).

Areas most frequently affected by cyclones are the Indian Ocean islands and the coastal areas of Eastern and Southern Africa (see Figure 7). Occasional cyclones penetrate the inland as far as Botswana. The World Bank hotspots analysis and data on flood risk highlight the relatively high risk of mortality and of economic losses in proportion to the GDP of cyclone-affected countries.

OTHER METEOROLOGICAL HAZARDS:

The following hazard types occur in Africa but have relatively low impact on human lives and economic activity,[25] partly due to the localised nature of their impact, and partly because of relatively low population density in the hazard-prone areas. It is also possible that there is under-reporting of hazard events.

Squall lines develop from intense thunderstorm activity associated with the West African monsoons, which are responsible for the majority of the annual rainfall in West Africa. Squalls can cause significant wind and flood damage over a very short period of time.

Hailstorms associated with thunderstorms can cause significant damage to housing and agriculture, such as in the South African 'Highveld'- an inland plateau at an elevation of 1500 metres.

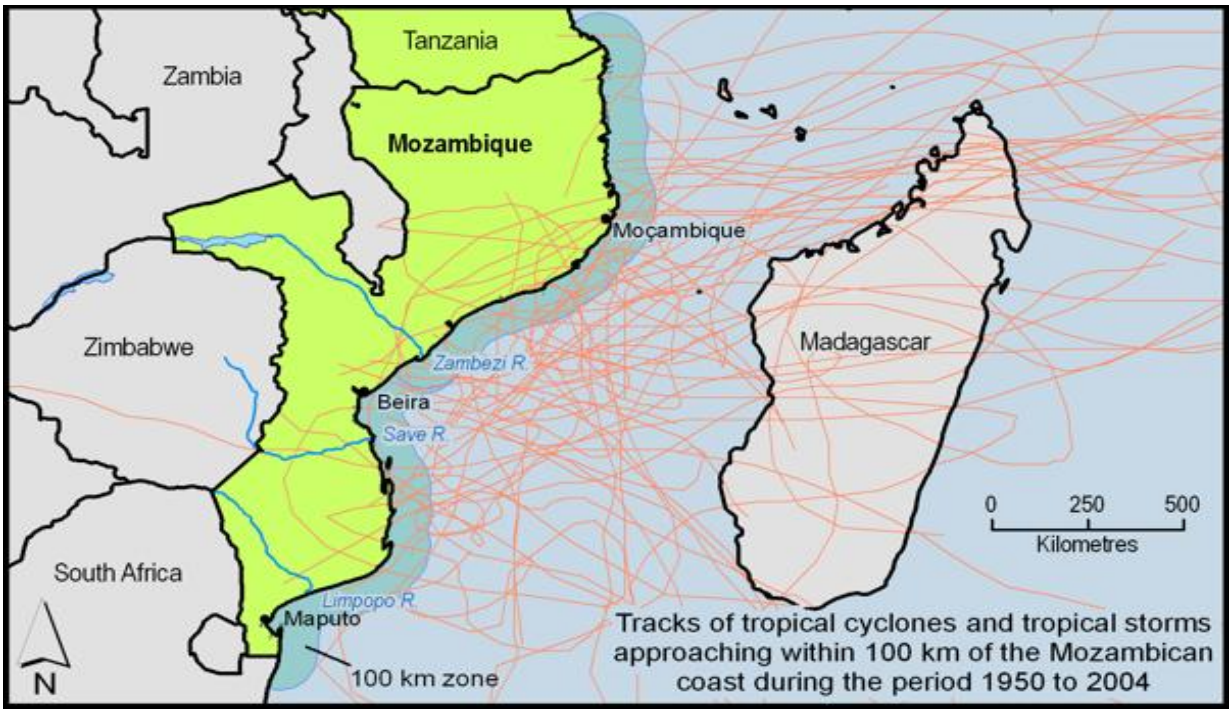
Tornadoes occur mainly in South Africa, causing infrequent but substantial damage to human settlements as well as agricultural and industrial infrastructure. Loss of life is frequent. Moreover, the rapid development and unpredictable paths of tornadoes generally make early warning transmissions ineffective.

Dust storms in the Sahel negatively impact human health and degrade agricultural land and other natural resources.

[25] M. Dilley et al, 2005. Natural Disaster Hotspots: A Global Risk Analysis. UNDP,

Source: gis-solutions.co.za

Figure 7: Tropical cyclone tracks in SE Africa (1950-2004)



2.2.4 Geological hazards

EARTHQUAKES

According to EM-DAT, there have been 20 earthquakes registered in 20 different countries of Africa since 2000. The most deadly of these occurred in Algeria in 2003 (killing 2,266 people) and in Morocco in 2004 (killing 628).While Sub-Saharan Africa is characterised by low seismic activity, the 2009 earthquake in Karonga, Malawi affected over 15,000 people. Earthquakes measuring above 6 on the Richter scale occur on average once per year in the East African Rift Valley, while the Cameroon Volcanic Line experiences earthquakes tied to volcanoes or fault movements up to a similar magnitude . It is also common for these to trigger landslides (dry mass movements). However, given the relatively low population density in these regions, the social and economic impact is usually minimal.

TSUNAMIS

There is very little research on risk associated with tsunamis in the region, although the Indian Ocean tsunami impacted a number of African countries, killing 298 people in Somalia and displacing over 50,000 others. In Madagascar, approximately 1,000 people were displaced by the same tsunami[26].

VOLCANOES

Africa has 25 active volcanoes, the majority of which are found along the East African continental rift zone (East African Rift). Some volcanoes are caused by a layer of earth (mantle) that

[26] Ibid

is anomalously hotter than surrounding areas (known as 'hotspots' in geology). Since 2000, seven eruptions have been registered in three African countries. The most deadly of these was DRC's Mt. Nyiragongo (killing 200 in 2002) and Mt Khartala in Comoros, which erupted three times and displaced nearly 300,000 people (EM-DAT).

According to the World Bank hotspots report, the overall risk of volcanic activity in Sub-Saharan Africa is low because eruptions happen infrequently and they are likely to impact sparsely-populated areas. When a volcano does erupt, however, it can cause devastating impacts in a very short period of time.

2.2.5 Biological hazards

HUMAN HEALTH AND EPIDEMICS

According to CRED[27], epidemics accounted for 32% of the disaster occurrences in Africa from 1975 to 2003, making this the most frequently-occurring hazard type in the region. The most common epidemics in the region are HIV/AIDS, malaria, meningitis, measles, cholera and other diarrhoeal diseases.

Since 2000, 270 out of 376 registered epidemics in Africa involved bacterial infectious diseases; the majority of these were diagnosed as cholera, killing over 20,000 individuals in37 countries. The remaining epidemics were caused by a dozen different viral infections. Very few epidemics were registered outside Sub-Saharan Africa (EM-DAT).

The Millennium Development Goals Report[28] on global poverty describes health conditions in Africa as 'the worst on the planet'. The average life expectancy at birth in the region is a mere 46 years. Over 10% of infants die before reaching one year of age and 17% of children die before reaching five years of age.[29]

Malaria is the leading cause of mortality under the age of five. It constitutes 10% of the continent's overall disease burden and accounts for 40% of public health expenditures. Not only does malaria result in loss of life and lost productivity due to illness and premature death, it also hampers children's schooling and social development through absenteeism. It renders individuals, households and communities particularly vulnerable to natural hazards as it erodes physical resilience and causes impoverishment through loss of income and the cost of treatment.[30]

It is estimated that 28 million people in Africa are infected with HIV/AIDS. In Central and East Africa, prevalence rates of the disease are between 5% and 12%, while in some countries of Southern Africa, rates are close to 20%[31].

Although a hazard in and of itself, HIV/AIDS has multiple direct and indirect effects on people's vulnerability to hazards. Not only does it increase the population's susceptibility to other diseases and weaken the overall physical health of people living with the virus, it also exacerbates food insecurity and malnutrition among affected

[27]Guha-Sapir D., Hargitt, D. and Hoyois P.*Thirty Years of Natural Disasters: The Numbers*. Centre for Research on the Epidemiology of Disasters (CRED), PresseUniversitaire de Louvain, 2004

[28]*Investing in Development: A Practical Plan to Achieve the Millennium Development Goals*, Sachs J., et al, 2005.
[29]Unicef, 2005.
[30]Roll Back Malaria Partnership, http://www.rbm.who.int/
[31]*ICSU Africa Strategy for Human Health and Well-being,* 2007

households. The cost of medication and increased care-giving needs put strains on poor households, and the debilitating effect of HIV/AIDs-related morbidity and mortality on social structures erodes traditional coping strategies both during and after disasters.

Populations with a high prevalence of HIV/AIDS, malaria, cholera and other diseases are particularly vulnerable to the deterioration of water supply and public health conditions that commonly occur during and after certain hazard events. In turn, such conditions often create an environment in which these and other diseases proliferate. Furthermore, the direct and indirect costs of diseases in the region constitute a significant socio-economic burden from household to national level in African countries, thus impeding investment in other aspects of development.

INSECT INFESTATIONS

Since 2001, insect infestations accounted for less than 1% of the total number of disasters occurring in Africa (13 infestations have been registered in 13 different countries, most involving locusts). However, the impact of an insect infestation can be widespread, as in the case of a 2009 caterpillar infestation in Liberia, which impacted half a million people. Further, when insect infestations affect staple or cash crops, they can cause a decrease in food security beyond a single agricultural cycle. They can also contaminate water sources and induce the displacement of populations.

2.2.6 Other hazards

As defined earlier, hazards are dangerous phenomena that have the potential to cause damage or loss of life or livelihoods. Although not currently addressed systematically by the humanitarian community (or registered by CRED), some hazards described lie just off the radar. What makes them different from the natural hazards described above is the complexity of their origin; most are largely human induced and owe their origin to other hazards.

ENVIRONMENTAL DEGRADATION

Land degradation is a hazard that can be classified into three types: physical, chemical and biological. These types do not necessarily occur individually; spiral feedbacks between processes are often present[32]. *Physical land degradation* refers to erosion, soil organic carbon loss and changes in the soil's physical structure, such as compaction or crusting and water logging. *Chemical degradation* includes leaching, salinization, acidification, nutrient imbalances, and fertility depletion. *Biological degradation* consists of rangeland degradation, deforestation and loss in biodiversity, involving loss of soil's organic matter or of flora and fauna populations or species in the soil[33].

Although all of these forms of degradation can be triggered by proximate and natural factors, they can also be triggered by anthropogenic factors (unsustainable land management and infrastructure development). More fundamentally,

[32]Katyal and Vlek 2000
[33]Scherr 1999

the underlying causes of land degradation in Africa include population density, market access, land tenure, access to extension services, decentralisation, international policies and non-farm employment. The risk of land degradation cannot be sustainably reduced without addressing carefully each of these factors and underlying causes[34].

Often a forgotten hazard due to its seemingly creeping nature, land degradation is a serious and worsening trend in Africa. The primary causes of land degradation are related to 'recurrent droughts and the existence of severe aridity, increase in human populations and associated growth in livestock populations, as well as inappropriate national agricultural and human settlement policies'[35]. Land degradation can either be a slow process or an extremely rapid one depending on environmental and social conditions. 'The resulting outcome however is a reduced carrying capacity of the land due to the loss of ecosystem functions[36]'.In1993, 65% of agricultural land was already considered to be degraded, causing as much as 50% of productivity losses in the dry lands of the region[37].

Poverty is both a cause and consequence of land degradation, as poor people are forced to put their immediate needs before the long-term quality of the land. Many small-scale farmers over-crop marginal land, either because of a lack of access to affordable technologies (which improve yields) or to alternative sources of employment.

Pastoralists tend to overstock to improve their chances of surviving the next drought, and a large part of the rural population strips trees and shrubs for firewood because they cannot afford other forms of fuel. In turn, degraded farmland and poor yields contribute to food and income insecurity, leading to the continued practice of environmentally destructive survival strategies and thus perpetuating the cycle of degradation.

More than a simple hazard, land degradation both reflects and contributes strongly to vulnerability, especially in Sub-Saharan Africa. Not only does it compound the impacts of hazards such as drought and flood, degradation also lowers overall resilience and capacity to recover from disasters. Land degradation has been linked repeatedly to child mortality, female illiteracy and other social dynamics in West Africa[38].Figure 9 illustrates the complexity of environmental degradation.

CONFLICT

According to the Uppsala Conflict Data Program[39], 129 conflict events have been registered in Africa since 2001. These events took place in 24 different African countries, representing every region of the continent. The relation

[34]Van Braun et al, 2010. The Economics of Land Degradation.http://www.globalsoilweek.org/wp-content/uploads/GSW_IssuePaper_Economics-of-Land-Degradation.pdf.
[35]Ibid.
[36]R. Cooke, T. Jallow, S. Lafleur, M. Laman, J. Njoroge, V. Nyagah and E. Obas (eds.), Promoting Farmer Innovation. Harnessing local environmental knowledge in East Africa, UNDP – Office to Combat Desertification and Drought (UNSO/SEED/BDP), 1999, p. 27.
[37]*Africa Review Report on Drought and Desertification*, United Nations Economic Commission for Africa, 2007

[38]http://www.grida.no/graphicslib/detail/adult-female-literacy-and-land-degradation-in-west-africa_d8c5
[39]Uppsala Conflict Data Program (Date of retrieval: 2013/01/17) UCDP Conflict Encyclopedia: www.ucdp.uu.se/database, Uppsala University.

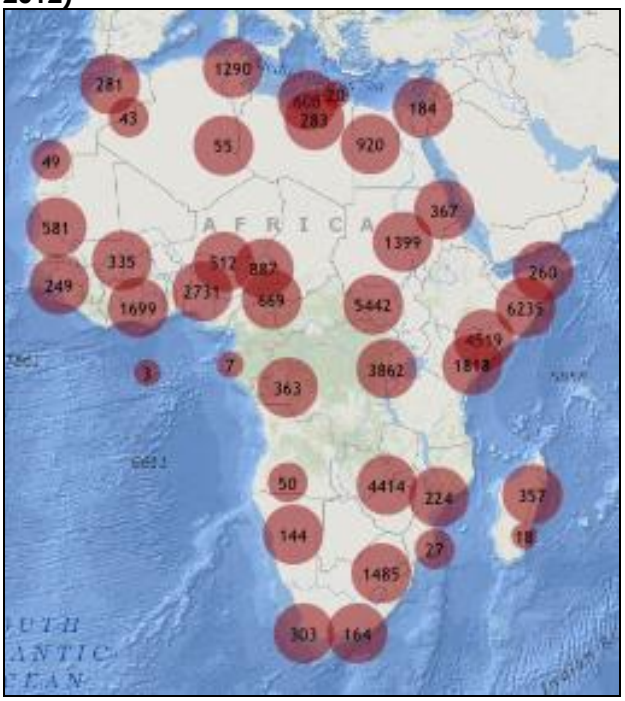
between climatic factors and conflicts is very pronounced in Africa. It has been found that a 1% increase in annual rainfall reduces the probability of a serious conflict by 6%[40].

According to the 2008 CARE/OCHA discussion paper for the *Climate Change and Human Vulnerability*[41] study, 'the interaction of high or increasing population density with increased humanitarian risk from climate change could lead to human displacement in …parts of Africa. Through extremely complex interactions between environmental, social and political factors, climate change could also play a part in triggering or exacerbating conflict'.

Conflicts require continuous supply of financial and human resources, thereby diverting assets and investments from social, economic and productive activities. They often draw men and sometimes children into armed groups, forcing the remaining family members to assume a greater workload and additional roles.

Physical insecurity and fear of attack limit people's access to food sources, firewood, agricultural land, pasture and markets, with grave consequences for food security and livelihoods. In December 2012, the Food and Agricultural Organisation of the United Nations (FAO)[42] listed 28 African countries in need of external assistance for food[43], of which many situations were linked to insecurity, conflict and the existence of large numbers of internally displaced persons (IDPs).

Figure 8: Number of armed conflicts (1997-2012)



Restricted movement in areas of protracted conflict can lead to over-exploitation of natural resources that then leads to environmental degradation. Conversely, local-level conflicts over diminishing natural resources can fuel conflict on a much wider scale.

Populations displaced or uprooted by conflict are extremely vulnerable to other hazards through their lack of access to adequate shelter, food, water, local knowledge or social support networks. The Internal Displacement Monitoring Centre (IDMC) estimated that as of 2011, 'more than 26 million people were internally displaced by conflict and violence across the world...[and] more than a third of them were in Africa, the region with the

[40]Miguel, E., S. Satyanath, and E. Sergenti. 2004. Economic Shocks and Civil Conflict: An Instrumental Variables Approach. *Journal of Political Economy* 112 (4): 725–53.].

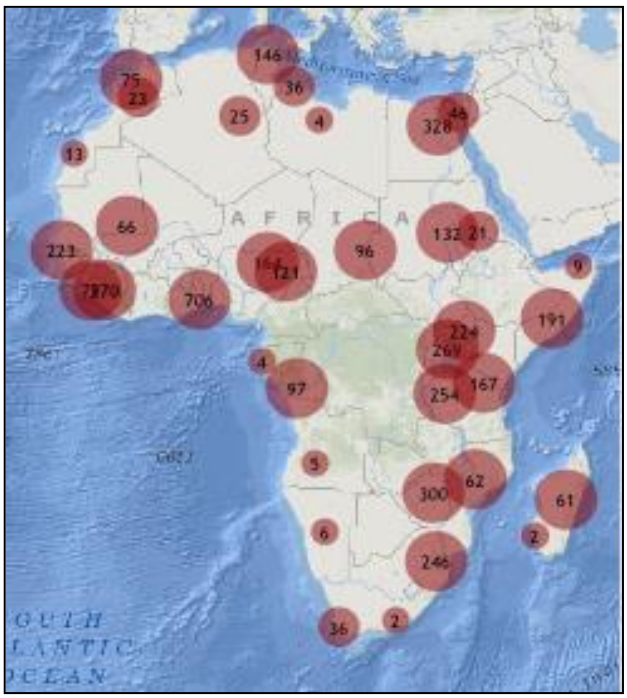
[41]http://www.careclimatechange.org/files/reports/Human_Implications_DiscussionPaper.pdf

[42] Crop Prospects and Food Situation - No.4, FAO, Rome, 2012; http://www.fao.org/docrep/017/al995e/al995e00.pdf.

[43]Countries in crisis requiring external assistance are expected to lack the resources to deal with reported critical problems of food insecurity.

highest number of IDPs' outnumbering refugees by five to one[44].

Figure 9: : Number of social conflicts (1990-2011)



2.3 Vulnerability in Africa

The CARE/OCHA discussion paper (2008[45]) determined that the areas of highest vulnerability in the world are located in Africa, particularly in the Sahel, the Horn of Africa and Central Africa. The report also highlighted isolated pockets of high vulnerability across much of the continent.

Earlier, in 2004, UNDP published *Living with Risk: A Global Review of Disaster Reduction Initiatives*[46] to draw attention to the urgent need to reduce the risk of disasters. It described the situation in Africa as follows: 'The African continent

is highly vulnerable to disasters from natural causes, particularly from hydro meteorological ones that regularly result in drought and floods. Equally important, the vulnerability to hazards is high, and rising.'

This description is equally valid today. All forms of vulnerability in Africa remain high, and endemic poverty is a major cause of migration to cities, environmental degradation, poor health and food insecurity.

In any context, the impact of a disaster depends on the nature and extent of the underlying factors of vulnerability as illustrated. This section highlights some of the key aspects of vulnerability in Africa and how they influence the ways in which people are affected by and recover from hazardous events.

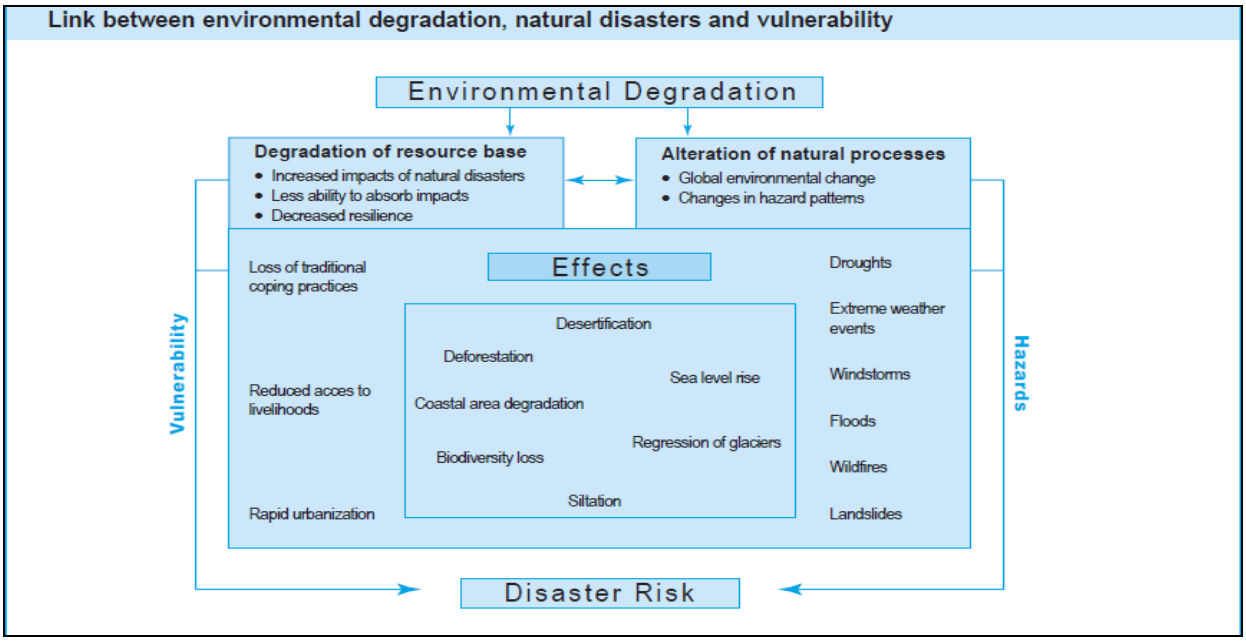
Included in this analysis are economic poverty, food insecurity/malnutrition and political exclusion. Dynamics such as epidemics, and slow-onset phenomena such as land degradation, were described in Section 2.2 above.

[44]IDMC, NRC and PCS, 2011. Internal Displacement in Africa: A Development Challenge. http://www.internal-displacement.org/8025708F004BE3B1/(httpInfoFiles)/CF58226E548B5FB8C1257A1B002F5020/$file/internal-displacement-in-africa-development-challenge-2012.pdf.

[45]http://www.careclimatechange.org/files/reports/Human_Implications_DiscussionPaper.pdf

[46] http://www.unisdr.org/files/657_lwr1.pdf

Figure 10: Link between environmental degradation, disaster risk and vulnerability



Source: Living with Risk (UNDP, 2004)

2.3.1 Economic poverty

According to 2011 data from the International Monetary Fund (IMF), 18 of the 20 poorest countries (measured by gross domestic product per capita and purchasing power parity) were located in Africa.

Despite remarkable progress in fighting extreme poverty, Africa still lags behind other regions of the world, with the decline in both absolute and relative poverty considered to be too slow. According to a recent report by AfDB[47], Sub-Saharan Africa is not on track to achieving its regional target of reducing the percentage of people living in extreme poverty to 29% by 2015. Many of the gains realized at the beginning of the previous decade have either been offset or reversed, mainly as a result of the global financial crisis as well as hikes in the price of world food and fuel. The wide disparities in poverty between African countries are equally of great concern. Although Morocco, Gambia, Senegal, Cameroon, Ethiopia and Ghana have made significant progress towards poverty reduction, other countries such as Côte d'Ivoire and Nigeria have experienced increases in the level of extreme poverty.

Over half of the population of Sub-Saharan Africa .still lives below the international poverty line[48], with 390 million people in the region surviving on less than $1.25[49] per day. This is a major underlying factor of disaster risk, as

[47] http://www.afdb.org/en/blogs/afdb-championing-inclusive-growth-across-africa/post/poverty-is-on-the-retreat-in-africa-8996/

[48] Chen, S. and Ravallion, M., 2008. *The developing world is poorer than we thought, but no less successful in the fight against poverty.* World Bank.

[49] The international poverty line has been revised to $1.25 per day for 2005 prices.

income poverty prevents the accumulation of assets that might otherwise be used to prepare, mitigate and recover from the impact of a hazard. In turn, disasters place further strain on already limited resources, reduce employment opportunities and damage livelihoods, thus perpetuating the cycles of poverty and vulnerability.

Although the average growth in GDP per capita in Africa has risen from 4% in 2001-2010 to 13% in 2010, half of the 54 countries in the region are still ranked as Low Income Countries, with a further 23 classified as Lower-Middle Income countries[50].

High levels of foreign debt also place a heavy burden on regional economies. The IMF and the World Bank have classified 33African countries as Heavily Indebted Poor Countries (HIPC),[51] qualifying them for debt relief programmes. On a positive note, since 2011, these Sub-Saharan countries have been able to channel savings from HIPC debt-relief into poverty reduction and government spending (education, health care and other social initiatives).The other good news is that according to IFAD, six of the world's ten fastest-growing economies for 2001-2010 are African nations, and seven of the top ten countries forecast to be the fastest growing by 2015 are located in Sub-Saharan Africa (see Table 1).

[50]World Bank, 2012.Classification of MIDCs and LIDCs.http://data.worldbank.org/country

[51] HIPC Programme defines three minimum requirements for participation in the program: 1.) country must show its debt is unsustainable; 2.) country must be sufficiently poor to qualify for loans from the World Bank's International Development Association or the IMF's Poverty Reduction and Growth Facility (PRGF), which provide long-term, interest-free loans to the world's poorest nations and 3.) country must establish a track record of reforms to help prevent future debt crises.[1]

2.3.2 Food insecurity and malnutrition

Food insecurity in Africa (especially in Sub-Saharan Africa) is persistent and widespread. According to the recent Office for U.S. Foreign Disaster Assistance (OFDA) International Food Security Assessment 2012-2022[52], the number of food-insecure people in 39 Sub-Saharan African countries is estimated at 357 million, a 4.3% decline from 2011. Despite having no projected food insecurity for 2013, North Africa is subject to risk as a result of the uncertain political environment and having the highest average annual production variability[53] (38% as opposed to 21% in Sub Saharan Africa).

Across Sub-Saharan Africa, progress has been insufficient to meet United Nations Millennium Development Goal (MDG) 1's hunger target by 2015 (UNICEF, 2011). While seven countries are on track (Algeria, Tunisia, Guinea Bissau, Ghana, Republic of Congo, Angola and Mozambique) to do so, many countries have made no progress at all. Recent surveys (2010) estimate that approximately 245 million people in Sub-Saharan Africa are undernourished[54] (down slightly from 2009).

African agriculture accounts for 32% of the region's GDP and employs over 75% of its population[55]. Due to population growth, low or stagnating productivity, policy distortions, weak institutions and poor infrastructure, Africa has been a

[52] http://www.ers.usda.gov/media/849266/gfa23.pdf

[53]Using coefficient of variation, which measures deviation from average, 1980-2011.

[54] J. Fanzo, UNDP, 2012. The Nutrition Challenge in Sub Saharan Africa. http://web.undp.org/africa/knowledge/WP-2012-012-Fanzo-nutrition-challenge.pdf

[55]Commission for Africa, 2005. Our Common Interest: Report of the Commission for Africa,

net food importer sincethe1970s[56]. Between 1980 and 2007, Africa's total net food imports grew by 3.4% per year, but this growth was fuelled mostly by population growth at 2.6% per year).

Poor nutritional status also increases vulnerability to the physical, social and economic impacts of natural hazards, and is itself likely to be further exacerbated by reduced access to, or availability of, food both during and after a disaster.

2.3.3 Exclusion of Marginal Communities

Political exclusion exists in Africa, for reasons ranging from gender and ethnicity to livelihood modality. Among these, however, the chronic Marginalisation of pastoralists continues to be one of the most visible forms of exclusion and has a significant impact on vulnerability to natural hazards.

The pastoralist population of the semi-arid and arid lands of Africa is estimated at 268 million (over a quarter of the total population), living in an area representing approximately 43% of the continent's total land mass[57]. The livelihoods of pastoralists are based on mobile livestock herding that follow nomadic or transhumant migratory patterns in order to take advantage of the shifting availability of water and pasture lands.

Although pastoralists make a significant contribution to national and regional economies and provide the majority of the meat that is consumed in Africa, they tend to experience a high incidence of extreme poverty and they are particularly vulnerable to drought. For example, in the pastoralist areas in northern Uganda, 64% of the population lives below the poverty line, compared with 38 % nationally.[58]

In 2010, the AU established a policy framework for pastoralism in Africa. While many national governments in the region are now engaged in strategies to improve the situation of pastoralists, the current prevalence of poverty and vulnerability among these groups is largely due to historical exclusion from decision-making processes that affect their livelihoods.

Historically, and in comparison with other sectors of the population, there has been relatively low investment by governments of the region in infrastructure, education, health and other basic services for pastoralist communities. This has contributed to creating or maintaining a range of socio-economic, physical and environmental vulnerabilities.

Furthermore, development policies that favour sedentary populations, private property rights and the expansion of agriculture into semi-arid zones have limited the mobility of pastoralists, thereby reducing their traditional mechanisms for coping with drought and other hazards, even resulting in conflict over scarce resources.

With the above descriptions of hazards, threats and vulnerabilities across the continent of Africa as an introduction, this report next explores the wide range of actions that have been set into motion by a multitude of actors in order to reduce risk. The following chapter

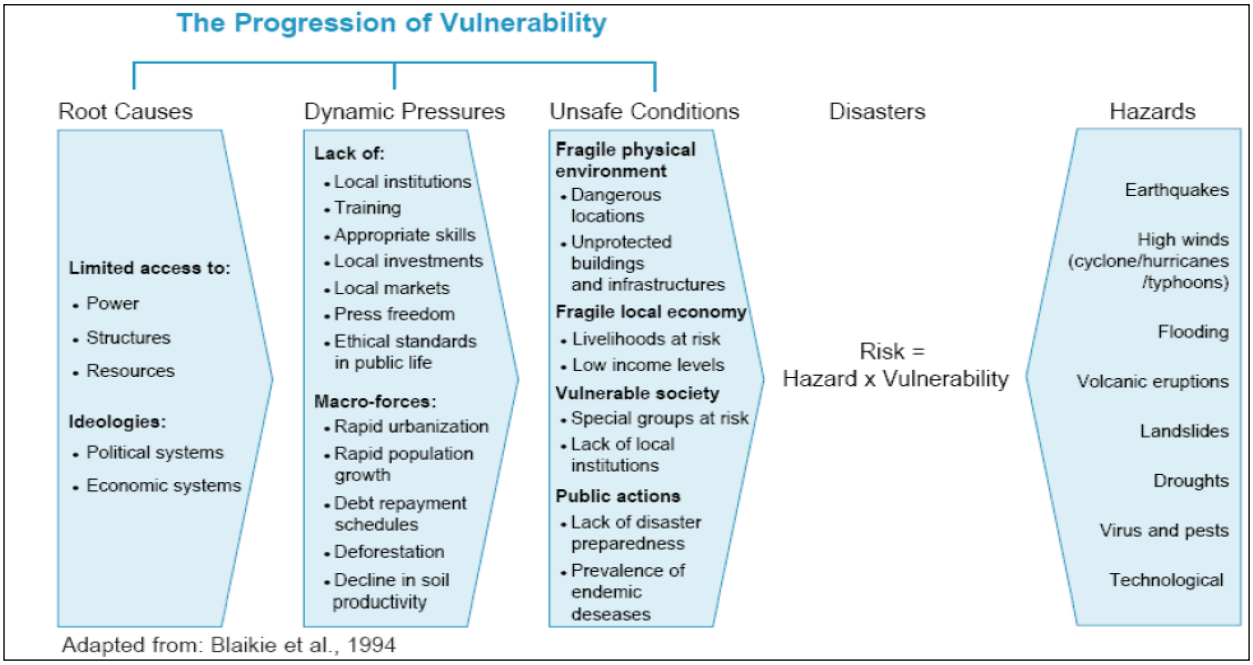
[56] http://www.fao.org/docrep/015/i2497e/i2497e00.pdf

[57] Policy Framework for Pastoralism in Africa.African Union, October 2010. http://rea.au.int/en/sites/default/files/Policy%20Framework%20for%20Pastoralism.pdf

[58] *Survival of the Fittest: Pastoralism and Climate change in East Africa*, Oxfam Briefing Paper, 2008

lays out details on the evolution of DRR across the continent.

Figure 11: The Recipe for Disasters



CHAPTER 3: DRR PROGRESS AT THE REGIONAL (AFRICA) LEVEL

3.1 AFRICA REGIONAL STRATEGY AND PROGRAMME OF ACTION

Commitment of the AU[59] to reduce disaster risk and develop the resilience of African nations and peoples is rooted in its Constitutive Act, which was agreed to by 53 countries in 2000. As signatories of this Act, heads of state and governments of Member States pledged to promote, among other objectives, security, stability and sustainable development in Africa[60].Box 5.

On these foundations, the AU established NEPAD[61] in 2001 to promote accelerated growth and sustainable development, eradicate widespread and severe poverty and halt the marginalisation of Africa in the globalisation process. AU/NEPAD proceeded to form the Africa Working Group on Disaster Risk Reduction[62] to facilitate the mainstreaming and integration of DRR in all phases of development in Africa, and developed the Africa Regional Strategy for Disaster Risk Reduction in 2004. In February 2010, the 14thAU Assembly established the NPCA as a technical body of the AU to replace the NEPAD Secretariat. The NPCA is a key outcome of the integration of NEPAD into the AU.

The Africa Advisory Group[63] on DRR was established in 2005 followed by the organisation of the 1st Africa Ministerial Conference on Disaster Risk Reduction (attended by 42 countries, the AfDB, several UN and international agencies and bilateral donors) that adopted the PoA which was subsequently endorsed by a Decision of the 8thOrdinary Session of the Executive Council of the African Union.

Earlier, in 2003, the Africa Working Group commissioned an assessment of the status of DRR in Africa, the results of which constituted the first baseline study of DRR in the region. The assessment report concluded that African countries faced the following major challenges:

- Insufficient institutionalisation of DRR;
- Inadequate information management and communication;
- Inadequate involvement of citizens;

[59]The African Union, since 2011, is composed of *54 Member States: Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, CAR, Comoros, Republic of Congo, Democratic Republic of Congo, Cote d'Ivoire, Djibouti, Egypt, Equatorial Guinea, Ethiopia, Eritrea, Gabon, Gambia, Ghana, Guinea Bissau, Guinea, Kenya, Lesotho, Liberia, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe, Sahrawi Arab Democratic Republic, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, Swaziland, Tanzania, Chad, Togo, Tunisia, Uganda, Zambia, Zimbabwe.*

[60]http://www.africaunion.org/root/au/AboutAu/Constitutive_Act_en.htm

[61]Since 2010, it is more commonly called the NEPAD Agency (NEPAD Planning & Coordination Agency or NPCA).

[62] The Africa Working Group was comprised of regional and sub-regional institutions, the African Development Bank, UN agencies such as UNDP and UNEP under the leadership of the AU Commission and the NEPAD Secretariat with the support of UNISDR. (http://www.unisdr.org/eng/task%20force/tf-working-group-dr-africa-eng.htm)

[63]To facilitate the implementation of the Hyogo Framework for Action, an African Advisory Group (AAG) was set up with five government officials and two experts who had been very active in disaster risk reduction in the continent. The main objective of the AAG was to provide regional experts' support to the Africa Working Group based on their national and community-level knowledge and experience, in order to facilitate the Working Group's efforts to advance disaster risk reduction process across the continent. The AAG has made advocacy possible among higher government officials in Africa. This also contributed to the organization of the first Ministerial Conference on Disaster Risk reduction in Africa. (www.unisdr.org/2005/.../inf12-Progress-Report-Africa-WG-IATF12.doc)

- Limited risk identification and assessment across the region; and
- Weak integration of DRR in development plans.

On the basis of this assessment, the Africa Working Group developed the ARSDRR. The Strategy's Objectives were to:

- Increase political commitment to disaster risk reduction;
- Improve identification and assessment of disaster risks;
- Enhance knowledge management for disaster risk reduction;
- Increase public awareness of disaster risk reduction;
- Improve governance of disaster risk reduction; and
- Integrate disaster risk reduction in emergency management and response.

After a comprehensive review by experts, governments and other stakeholders, the ARSDRR was adopted by its 53 Member States at the 10thmeeting of AMCEN in June 2004 and officially acknowledged at the AU Summit in 2004. At this event, the AU called for an action plan to be developed for its implementation. It committed to provides strategic guidance, to facilitate and promote the implementation of the Strategy and to seek support from development partners and coordinate at the regional level.

Following consultations with national, regional and global stakeholders, the 'Programme of Action for the Implementation of the Africa Regional Strategy for Disaster Risk Reduction' (PoA) was developed in 2005, together with 'Guidelines for Mainstreaming Disaster Risk Assessment into Development'. Both were adopted at the 1st African Ministerial Conference on Disaster Risk Reduction in 2005 and were integrated into AMCEN's five-year programme in 2006.

In 2007, the 1st African Regional Platform for Disaster Risk Reduction was convened to foster regional commitment, promote cooperation and coordination between African countries, and share experiences of DRR efforts in Africa. It also provided a forum in which to prepare the first progress report for African countries in relation to the HFA and prepare for the 1ST session of the Global Platform for Disaster Risk Reduction, which was held in Geneva in June 2007 and was attended by representatives of several African governments.

At a UNISDR Consultative Meeting for Parliamentarians held in Nairobi, Kenya in February 2009, African parliamentarians from the Republics of Chad, Egypt, Ghana, Kenya, Madagascar, Namibia, Senegal, Tanzania, Uganda, Zambia and the East African Legislative Assembly committed to a series of actions to accelerate the agenda of DRR and CCA in Africa, and to work to ensure that African interests are firmly placed on the global agenda for decisions on climate change.

The 2ndAfrica Regional Platform for Disaster Risk Reduction was held in May 2009. At this meeting, participants were able to assess progress made on DRR in Africa, discuss emerging challenges and opportunities and agree on the African position for the 2nd Global Platform for Disaster Risk Reduction in June 2009. The meeting was also an opportunity to revise and update the PoA as well as

provide clear mechanisms for implementation, endorsed by the 2nd African Ministerial Conference on DRR held in Nairobi in April 2010. This conference adopted the Extended Programme of Action for the Implementation of the Africa Regional Strategy for Disaster Risk Reduction (2006-2015) and endorsed 18 recommendations highlighted in the subsequent decision[64].

The overall goal of the Extended PoA (EX.CL/589(XVII)) from 2006 to 2015 is to achieve a substantial reduction of social, economic and environmental impacts of disasters on African people and economies, thereby facilitating the achievement of the Millennium Development Goals (MDGs) and other development goals in Africa.

The 3rd Africa Regional Platform was held in Nairobi at the 2010expert meeting of the 2ND Africa Ministerial Conference. The themes covered were linkages with climate change, safer cities, schools and hospitals as well as risk financing.

The 4th Africa Regional Platform, convened jointly with the 5th African Drought Adaptation Forum, was held in February 2013 in Arusha, Tanzania. The Platform received participation from 45 African countries[65] and reviewed achievements and challenges in implementing the ARSDRR and its Extended PoA, and identified measures for fulfilling shared commitments by 2015. The Platform facilitated consolidation of the Africa position to the 4th Session of the Global Platform for Disaster Risk Reduction and consultations leading to HFA-2.

Looking ahead, the AfRP considered the changing character of vulnerability and the government leadership required to lead an inclusive process of consultations to meet on-going and emerging challenges. The meeting concluded with an official recognition of the following points:

- Africa is a dynamic continent in a period of rapid transformation characterised by changes in economy, society and the environment.
- African communities, in particular women and children, stand on the frontline of disaster risk and play increasingly influential roles in building resilience.
- Safe and equitable development outcomes in Africa are achievable.
- Substantive knowledge and technical and human resources are already available nationally and locally in the continent.
- Targeting progress in DRR efforts at all levels helps African governments.
- DRR is now on the agenda of every government in Africa.

3.2 Ministerial Declaration and Recommendations to the AUC

The 2010 2nd African Ministerial Conference on DRR officially endorsed a declaration[66] that underscored 18 specific recommendations to the African Union Summit (AUS). Those recommendations, and the progress made in following them, are described below, organised under the following themes: institutional frameworks, funding, capacity, and targets (cities,

[64] Decision on the Report of the 2nd Ministerial Conference on Disaster Risk Reduction EX.CL/Dec.607 (XVIII). This decision satisfies the 18th recommendation of the Ministerial Declaration.
[65] http://www.unisdr.org/we/inform/events/30143

[66] Declaration of the 2nd Ministerial Conference on Disaster Risk Reduction, Nairobi, 2010.

communities and most vulnerable peoples).

3.2.1 Institutional Frameworks

The different institutions that are referred to in the 18 recommendations include National Platforms for DRR, the African Working Group for DRR (AWGDRR), RECs (and their DRR units) and UNISDR, with specific reference to the HFA and the ARSDRR Objectives monitoring process.

NATIONAL PLATFORMS FOR DRR

As their first recommendation, the 2010 2nd African Ministerial Conference on DRR recommended that the African Union Commission continue to mobilise political support and to advocate for international community, institutions and development partners to support Member States to institutionalise multi-sectoral National Platforms for DRR, or similar coordinating mechanisms, which integrate disaster and climate risk management (emphasising the mainstreaming of DRR) into planning and finance, health, education, urban development, infrastructure, energy, water and sanitation, industry, agriculture and food security sectors, among other national priorities.

Prior to the 2010 recommendation, the HFA called on all nations 'to support the creation and strengthening of national integrated mechanisms such as multi-sectoral national platforms' to ensure that DRR is made a national and a local priority. A National Platform is defined[67] as a nationally-owned and nationally-led forum or committee of multi-stakeholders. It serves as an advocate of DRR at different levels and provides coordination, analysis and advice on areas of priority requiring concerted action through a coordinated and participatory process. By the time of the 2010 printing of the National Platform for Disaster Risk Reduction (DRR) Toolkit[68] ('NP Toolkit'), at least 30 official National Platforms reportedly existed in Africa (and 10 others were underway).As of March 2013,40 countries in Africa have National Platforms or equivalent structures in place.

The NP Tool kit for Africa was designed to augment and enhance UNISDR 'Guidelines for National Platforms for DRR' ('Guidelines) produced initially in 2005 and revised in 2010. The chapters of the toolkit mirror closely UNISDR 'Guidelines' as they apply to African countries. The NP Toolkit guides African countries on how to set up National Platforms for DRR as well as helps to identify primary activities and ways to accelerate existing National Platforms.

In 2012, UNISDR commissioned a report of the status of National Platforms in Africa[69]. The report assessed the capacity of nineteen (19) National Platforms across Africa's three main regional blocs: ECOWAS, ECCAS and SADC.

Although membership in the National Platforms across the studied sample was found to be adequate in addressing national risks, findings from the report suggest that the capacity of National Platforms for DRR across Africa is low on average (scoring 48 out of 100[70]). The most salient driver of strong National

[67]UNISDR 'Guidelines for National Platforms for DRR' produced initially in 2005 and revised in 2010.

[68]The National Platform for Disaster Risk Reduction (DRR) Tool Kit was developed for African countries by UNISDR Regional Office for Africa with support from the Federal Republic of Germany and the European Commission Humanitarian Aid Department (ECHO).

[69]Tall, A., 2012.Assessing the Capacity of National Platforms for Disaster Risk Reduction in Africa, Draft Final Report
UNISDR Regional Office for Africa

[70]'This average score hides large discrepancies from country to country, with high NP capacity scores attained in Comoros (82%), Ghana (78%) and Mauritius (65%). By way of regional rankings, the SADC region leads with an average NP capacity score of 52%, followed by the East Africa bloc and finally, the ECOWAS region where many NPs remain still non-operational.' (Source in 52 above)

Platform capacity appears to be institutional integration. Findings suggest, therefore, that the current manner in which National Platforms are set up might not be the most efficient way to securing national ownership and leadership of DRR, implying that their concept could be revisited.

The concept of National Platforms in Africa might need to be revised in light of these findings, and a more thorough assessment of a larger sampling of countries might be necessary in order to draw a blueprint for their reconstitution, thereby enabling them to fully serve their DRR coordination and advocacy role in Africa.

AFRICA WORKING GROUPON DRR[71]

To implement the Ministerial Declaration in accordance with a decision of the AU Executive Council, the AU Commission, in collaboration with UNISDR Regional Office for Africa, convened the inaugural meeting of the reconstituted AWGDRR, in Nairobi from March 29 to 31, 2011[72]. This meeting drafted the Africa position paper that was later presented to the 2011 Global Platform for Disaster Reduction in Geneva.[73]

The reconstitution of the AWGDRR thus represented an achievement of one of the measurable indicators under the ARSDRR in that it supported the overall coordination and monitoring of the implementation of the ARSDRR within the PoA.

On 31 March 2011, the AWGDRR adopted the mandate and general goal to 'act as an advisory group and provide technical support to the AUC, RECs and Member States and Partners and guide the implementation of priority programmes of the Africa Regional Strategy for DRR and its Programme of Action'. Twenty core members were identified as follows [74]: the AUC / NPCA, the AfDB, each of the eight RECs, one expert per Region (a total of five), UNISDR, GFDRR, one representative of Regional Specialised Entities, one representative of civil society and one representative of academia and research institutes. Extended membership was granted to many other DRR partners. Chairmanship was assigned to the AUC. The AWGDRR was set up to act as a network and to report to the Africa Regional Platform.

The second meeting of the reconstituted AWGDRR was held for core members in Yaoundé, Cameroon in May 2012[75]. The attendees called for a 3rd Africa Ministerial Conference preceded by a technical Regional Platform before the end of that year (neither of which was able to be organised).

A second recommendation on the African Union Commission to 'reconstitute the Africa Working Group on Disaster Risk Reduction (AWGDRR) to provide coordination and technical support to Member States for the implementation of the Africa Regional Strategy for Disaster Risk Reduction and its Programme of Action'.

The third meeting of the AWGDRR was held in Zanzibar, Tanzania in September 2012. The AWGDRR agreed on a wide variety of measures and activities to

[71] Declaration of the 2nd Ministerial Conference on Disaster Risk Reduction, Nairobi, 2010.
[72] http://www.unisdr.org/campaign/resilientcities/events/view/18385 and http://www.unisdr.org/archive/18754
[73] http://www.unisdr.org/files/20541_unisdrafricaspotlightnewletterissue.pdf
[74] http://www.preventionweb.net/files/globalplatform/entry_bg_paper~awgdrrtor31march.pdf
[75] http://www.disasterriskreduction.net/fileadmin/user_upload/drought/docs/Revised%20TOR%20AWGDRR%20TOR.pdf

advance the process of building the resilience of communities, including the potential contribution of indigenous knowledge to reducing disaster risks; the need for higher information flows and building institutional linkages, among other things. A joint communiqué was issued by the group that recognised 'the need for an intra-regional cooperation initiative in Africa to accelerate and scale up the implementation of the Africa Regional Strategy and Programme of Action for Disaster Risk Reduction 2006-2015; in particular, with a view to supporting African institutions to develop sustainable capacities for the mainstreaming of disaster risk reduction and building the resilience of African communities accordingly.'[76]

The next meeting of the AWGDRR is planned for 2013 in Johannesburg, South Africa.

DRR UNITS AND RESPONSIBILITY IN RECS

The 14th recommendation[54] of the 2nd African Ministerial Conference on DRR called on the African Union Commission and the Regional Economic Communities to 'establish and/or strengthen, within their organisational structures, functional, sustainable, affordable and dedicated disaster risk reduction units for coordination and monitoring'. The same declaration called for the RECs to 'enhance the implementation of their roles and responsibilities as stated in the Africa Strategy and Programme of Action'.

The AU recognizes eight RECs. Among these, SADC and COMESA have established a DRR unit or have DRR/M delegated staff, and ECOWAS, ECCAS and IGAD have all developed DRR policies, plans or strategies. The RECs with less visible DRR structures have also conducted efforts such as developing guidelines or programs with Member States in order to support both regional and sub-regional DRR interventions. Some of the RECs not officially recognized by the AU (for example, ICGLR and IOC) have also invested in DRR efforts.

Regional workshop training opportunities on disaster law, international norms for managing humanitarian assistance and exploring regulatory frameworks within the sub-regions help to advance DRR development and policy planning. The actual DRR efforts organised by the RECs (recognised and unrecognised) are discussed in detail in Chapter 4 below.

The 4th recommendation of the 2nd African Ministerial Conference on DRR requested that the African Union Commission, regional and sub-regional organisations and Member States continuously monitor the implementation of the Africa Regional Strategy for Disaster Risk Reduction and its Programme of Action in line with the HFA and to assess and report biennially on the progress made. The 16th recommendation of the same declaration called upon the Member States to 'adopt the revised Programme of Action for the Implementation of the African Strategy for Disaster Risk Reduction (2006-2015) and to monitor progress'. The 17th recommendation invited 'the United Nations International Strategy for Disaster Reduction (UNISDR) and partners to engage with African Union Commission, Regional Economic Communities and African countries to support the implementation of this Declaration, as appropriate'. A glance at their various contributions is provided in Chapter 7.

SUPPORT FROM UNISDR AND MONITORING OFTHE ARSDRR AND HFA[54]

Every two years, all countries are requested by UNISDR to submit an on-line HFA Monitoring Report that describes the evolution of the status of their DRR activities. Ideally, the monitoring report is compiled jointly during a DRR National Platform or planning meeting with all sectors,

[76] http://www.unisdr.org/files/30143_annex2reportontheawgondrrinafrica.pdf

contributing key advances as they pertain to the Africa PoA and the HFA. The monitoring and reporting are done as a self-assessment, and therefore contain limited checks or balances, rather relying on the objectivity and in-depth knowledge of the reporters of all DRR activities carried out by all stakeholders in the country. Although criteria per score are provided, the results typically present monumental challenges that, to date, do not allow for comprehensive comparison across countries.

There have been four reporting periods of the HFA since its inception: 2007, 2009, 2011 and 2013. The number of African countries submitting monitoring reports for each period is found in Table 3[77].Although the total of countries having reported during at least one period, 37, is quite high (more than two-thirds of the continent), Table 3demonstrates the on-going difficultly in ensuring that countries complete the National HFA Monitor self-assessment according to the biennial reporting basis. The countries that have reported for all four periods are Kenya, Mauritius and Tanzania.

Table 3: ARS and HFA Monitoring progress

Reporting Period	Number of Countries Submitting	% Africa
2005-7	10	19%
2007-9	19	36%
2009-11	26	49%
2011-13	21	39%
Total	**37***	**69%**
17 countries have never submitted		
3 countries have submitted all 4 reporting periods		

[77]http://www.preventionweb.net/english/hyogo/progress/reports/?pid:222

There is need to reflect on the HFA monitoring process, both to find ways to motivate the countries to submit their progress reports every two years and to identify validation schemes, which make the monitoring results less subjective and easier to summarize and compare across the continent. National details of the HFA Monitoring results are featured in Chapter 5.

Beyond supervising HFA monitoring, UNISDR Regional Office for Africa was established in Nairobi with support of the Government of Germany in 2002, only two years after the Secretariat was established in Geneva. With the backing of the World Bank GFDRR, Germany, the Swedish International Development Cooperation Agency (SIDA), the Australian Agency for International Development (AusAid), Switzerland and DG ECHO,UNISDR Regional Office for Africa currently supports (along with the AU) DRR Advisors in five sub-regions (RECs): the Horn of Africa/IGAD, East Africa (EAC), West Africa (ECOWAS), Central Africa and South Africa (SADC).

A second UNISDR Regional Office for Arab States in Cairo supports 10 North African countries (and Comoros). See Figure 13 for a map of the shared support of the continent.

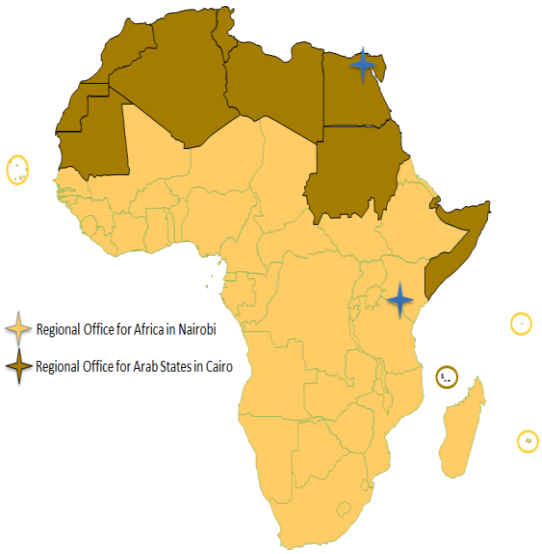


Figure 12: UNISDR Coverage in Africa

The initial focus of UNISDR Regional Office for Africa was to build a strong relationship with the AU and develop national capacities and coordination of National Platforms for DRR among Member States. In 2005, under the leadership of the AUC and based on African expertise, UNISDR Regional Office for Africa helped to shape the AUPoA. Beyond the mandate of UNISDR in Geneva, UNISDR Regional Office for Africa is committed to supporting the AUC in their DRR activities UNISDR Regional Office for Africa was also instrumental in advocating to reinstate the AWGDRR and organises and leads the UN Inter-Agency Group for DRR in Africa.

More recently, the focus has shifted to strengthening sub-regional capacity. UNISDR Regional Office for Africa has embarked on a road to building partnerships with university networks, climate service providers and NGOs in order to further support governments as well as to strengthen DRR risk knowledge both on economic losses due to disasters and the rising need for risk-sensitive planning to counter the fast pace of urbanization and early warning capacity in the region.

UNISDR Regional Office for Africa programme is determined in consultation with African regional and sub-regional inter-governmental entities as well as on the basis of specific country requests, in order to ensure that activities are complementary to on-going larger processes. Countries identified by partners (such as the UN and the World Bank) to be at high-risk are also given priority in these efforts.

3.2.2 Funding

Recommendations 7 through 10 of the 2nd African Ministerial Conference of DRR[78] focused on the financing of DRR. Advances by Member States and donors and through continental and regional risk pooling and financial mechanisms are described below.

The 2nd African Ministerial Conference on DRR 2010 strongly urged Member States to 'increase their investments in disaster risk reduction through the allocation of a certain percentage of their national budgets and other revenue dedicated to disaster risk reduction and report to the next Ministerial Conference, considering other related African Ministerial resolutions'.

DRR INVESTMENT BY MEMBER STATES

Although the institutionalisation of DRR within governments has been high on the agenda of many African countries, there is still a lack of budgetary commitment from them for the integration of DRR measures into government line functions and ministries: development, education, health, etc.[79]. A mind-set persists of over reliance on

[78] Declaration of the 2nd Ministerial Conference on Disaster Risk Reduction, Nairobi, 2010

[79] Inception Report: Cost Effectiveness Study on Disaster Risk Reduction in the Health and Education Sector, Horn of Africa, Final, UNISDR with Africa, African Centre for Disaster Studies.

the 'disaster management', 'civil protection', or 'disaster risk management' components of governments to shoulder the burden of reducing risks to natural and anthropogenic hazards. At the 2nd African Ministerial Conference on DRR, governments came close to making a commitment to allocating a certain percentage of their national budgets and other revenue to DRR.

According to HFA Reporting in 2011[80] (for a total of 29 African countries), 'most governments did not have dedicated funds for reconstruction or longer term resilient development. These needs are typically met via short-term budgetary reallocations; future capital investment budgets and external grant assistance. While African governments reported overall on a shortage of funds available for longer-term recovery (over 70% of the reporting countries), countries such as Malawi, Burkina Faso, Morocco, Mali, Seychelles, Madagascar and Cape Verde indicated that their post-disaster recovery programmes explicitly incorporate and budget for DRR. For example, although Senegal previously reported a 2% margin of reconstruction funds allocated to DRR in the 2011 HFA report, regularly earmarking funds for prevention remained an important challenge in that country.

The declaration[55] also called upon Member States, under the auspices of the AUC to 'explore the feasibility of continental financial risk pooling in working towards the creation of an African-owned, Pan-African disaster risk pool, building on existing and emerging tools and mechanisms for financing disaster risk reduction' and also called for a 'study into the establishment of a regional funding mechanism for disaster risk reduction, which allows Member States to access existing, and future, regional and global funds for climate change adaptation and disaster risk reduction'.

UNISDR with UNDP has embarked on a continent-wide development of databases to support governments in assessing economic losses from disasters. Ethiopia, Kenya, Uganda, Mali, Morocco, Mozambique and Egypt were completed in 2012-2013. With 20 additional countries scheduled over the next five years.

CONTINENTAL FINANCIAL RISK POOLING AND REGIONAL FUNDING MECHANISMS

An analysis of the economic and insured losses due to natural disasters worldwide indicates a growing body of evidence on the increasing frequency and severity of disasters. As a result, the fiscal and economic exposure of developing countries to natural disasters increases every year due to a variety of reasons, ranging from the growing concentration of populations and assets in high-risk areas, to increases in climate change and variability.

DRR is beginning to be discussed between finance ministers in Africa, who recently called for 'institutionalizing effective financial and other instruments such as strategic grain reserves, budgeted contingency funds as well as through sharing risk across [sub]regions'[81](ARC, Box 6).

[80] http://www.unisdr.org/files/24012_briefingnote04africa.pdf

[81] African Ministers of Finance in Lilongwe, Malawi, 29-30 March 2010.

At the 2010 2nd African Ministerial

Financing disaster risks requires a combination of private risk funding arrangements (corporate and community-based) and pools of funding from governments (e.g., hybrid pools of resources that can include line item budgeting for DRR by sector). However, governments are not adequately budgeting or financing disaster related risks despite their exposure to such risks and the viability of proven risk transfer mechanisms (such as market related insurance, proper and enforceable urban and regional planning, integration of DRR into development practices etc.). However, risk financing must be a realistic exercise driven by scientific and proven risk assessments.

Box 6: African Risk Capacity (ARC)

The African Risk Capacity is a Specialized Agency of the AU, designed to help Member States resist and recover from the ravages of natural disasters. Twenty-two countries have signed the ARC Establishment Agreement (Treaty), which entered into force late last year, establishing ARC's position as a Specialized Agency. . Mandated by AU Heads of State in July 2012, delegates from 41 countries across the continent convened to finalize the ARC Establishment Agreement.

This Africa-owned, AU-led financial entity will use advanced satellite weather surveillance and software to estimate and disburse immediate funds to African countries hit by severe drought, with other hazards to follow in the coming years. More relevant than ever in light of the lingering effects of the drought in the Horn of Africa last year and the on-going crisis in the Sahel, this pioneering new mechanism is expected to decrease Africa's reliance on external aid.

ARC has the support of the Rockefeller Foundation, Department for International Development (DFID) of the Government of the United Kingdom, SIDA and the International Fund for Agriculture Development (IFAD).

The objective of ARC and the weather risk quantification software, *Africa Risk View*, is to capitalize on the natural diversification of weather risk across Africa, allowing countries to manage their risk as a group and secure funds from donors and the international risk market in a financially efficient manner in order to respond to probable but uncertain risks. ARC will utilize modern financial mechanisms like risk pooling and risk transfer to establish the contingency financing facility. These techniques, while not new, can be applied by African countries in innovative ways to lower the cost of the response to disasters, before they become humanitarian crises, and provide better services to those affected.

The ARC will incorporate a mutual insurance company in Bermuda for an interim period with expected transfer of the first portfolio to market in December 2013. A flood model is being designed and the ARC aims to offer coverage for flood-related food security risk to client governments in December 2014.

Source: [1]http://www.africanriskcapacity.org/arcestablishment

risk financing should not only be seen as a market-related exercise nor a top-down approach. Government and civil society must be encouraged to also utilise community-based savings and insurance mechanisms to offset the risk of disasters. In parallel, governments must consider ring-fencing funds for DRR through development, humanitarian, disaster response and national and international aid allocations. Evidence shows, however, that African

DRR INVESTMENT BY DONORS

Just like governments, investment partners must understand the importance of assigning the appropriate level of investment to DRR related activities. Over the past 10 years, it has

become evident that the international donor community is becoming more risk averse and focussed on DRR investment. To this end, the work undertaken by organisations such as the World Bank (though the GFDRR), the European Commission (thought DIPECHO and DG ECHO), the AfDB, Deutsche Gesellschaftfür Internationale Zusammenarbeit(GIZ), the United States Agency for International Development (USAID), the UK Department for International Development (DFID), AusAID, SIDA, Noraid, various UN organisations, the International Federation of the Red Cross (IFRC) and national Red Cross/ Red Crescent Societies and many NGOs: Oxfam, CARE, Plan International, World Vision as well as smaller country-based organisations) are becoming increasingly DRR focussed. There is little evidence to suggest, however, that *adequate* investment in DRR in Africa is available. Unfortunately, many donors remain focussed on disaster response and humanitarian relief and thus the connection to long-term DRR and integrated development is not made. The insurance industry, which arguably has the most to lose in the developed world, is also not making pre-emptive investments in DRR activities in emerging African markets.

The 2nd Global Platform 2009 also called on development and humanitarian partners to ensure that disbursement of one percent of development assistance and ten percent of humanitarian assistance, in line with the Chair's Summary of the 2nd Session of the Global Platform, supports DRR, preparedness and recovery, including from violent conflicts and/or severe economic difficulties'.

Current data sources do not provide an accessible or robust tool for analysing donor commitment to DRR. Coding structures are weak and donor reporting is inconsistent. It is widely acknowledged that the need to move DRR into more measurable action supported by adequate funds is acute. However, a recent analysis[82] published by Global Humanitarian Assistance (GHA) reports that 'positive advances have been made since the inception of the HFA, particularly regarding the emergence of DRR in many government donor policies, and increasing support to UNISDR and GFDRR. However, levels of funding [of DRR] in international aid still appear to be relatively low, notwithstanding the limitations in tracking investments'.

According to the GHA analysis, '...the share of Development Assistance Committee (DAC) donors' humanitarian aid dedicated to preparing for disasters has increased, rising from US$59 million in 2006 to over US$350 million by 2010. Despite this increase, in 2010 donor governments' combined DRR funding fell below 4% of their humanitarian aid expenditure, still well below the 10% recommended at the Global Platform in 2009. In the five years preceding the HFA, only two governments out of the 24 DAC donors have spent over 10% of their total official humanitarian aid on DRR-related activities; six have spent between 6% and 8%, and the remaining governments have contributed even less. Although these figures do not necessarily include all governments'

[82] http://www.globalhumanitarianassistance.org/wp-content/uploads/2012/10/Aid-investments-in-disaster-risk-reduction-rhetoric-to-action-Dan-Sparks1.pdf

Table 4: Top recipients of DRR funding

(*Overseas development assistance)

Top 20 DRR recipients (Rank out of 20)	**Total DRR in ODA* from DAC donors** (US$ mill)	**% of total DAC DRR country allocable funding**	**Official humanitarian aid rank / ODA rank 2006–10**	**Top donors**
Ethiopia (5)	125.8	5%	4 / 3	EU (38%), Canada (27%), UK (23%)
Kenya (11)	49.1	2%	10 / 14	EU (49%), Canada (17%), Japan (11%)
Mozambique (12)	43.2	2%	35 / 10	Canada (32%), Germany (25%), US (15%)
Ghana (18)	31.9	1%	74 / 15	Canada (66%), Japan (25%),
Zimbabwe (19)	27.4	1%	12 / 43	Canada (75%), EU (9%), Norway (8%)

Funding to UNISDR and GFDRR (funding to these institutions is difficult to locate in the data), levels are still significantly low'.

Among the top 20 recipients of DAC Donor bilateral DRR funding between 2006–2010, African nations took five slots (in order of volume): Ethiopia, Kenya, Mozambique, Ghana and Zimbabwe (Table 4).

The World Health Organisation (WHO) set a good example of DRR commitment. Although not a direct DRR implementer, WHO is using a percentage of its own budget in parts of Africa based on the 1% suggestion[83]. This could be a model for other UN development agencies.

3.2.3 Capacity

The need for building greater capacity across the continent was clearly recognised by the African Ministerial Conference as a prerequisite to DRR. This capacity building was recommended with multiple dimensions: national education, a network for training, research and exchange and finally, the embracing of multiple knowledge systems.

[83] In-depth study on the United Nations contribution to the implementation of the HFA: External study commissioned for the Mid-Term Review 2010-2011, UNISDR.

NATIONAL EDUCATION

The eleventh recommendation of the 2nd African Ministerial Conference on DRR called on the African Union Commission and Member States to make disaster risk reduction and climate change adaptation a national education priority through their integration into the educational system, including the development of curricula, and the training of teachers.

In 2012, the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the United Nations Children Fund (UNICEF) jointly published'Disaster Risk Reduction in School Curricula: Case Studies from Thirty Countries', the results of a research effort[84] that explored examples of DRR education in national school curricula; seven of these case studies were from Africa. The effort underscores that learning and teaching approaches used in addressing DRR curriculum tends to be generally limited in application and that 'links are not, in many cases, being made between the competency, community engagement and proactive citizenship ambitions of DRR'. The document provides a checklist for optimal DRR practice for both curriculum and pedagogy. Although results highlight that 'relatively few DRR-related curricula incorporate climate change education', the African case studies were generally the positive exception to this trend. UNICEF published another compilation of DRR efforts on national curricula[85] in 2012. One of the main findings it proposed specific to Africa was that 'a capacity development approach through regional training proved very successful in galvanizing commitment from Ministries of Education'. This has clear implications for African RECs.

In 2013 UNESCO and UNICEF published 'Towards a Learning Culture of Safety and Resilience: Technical Guidance for Integrating Disaster Risk Reduction in the School Curriculum' (pilot version). This guidance, which is a companion volume to the DRR in school curricula study from 2012, 'is designed to provide enabling frameworks and tools to help countries and sub-national jurisdictions move the DRR curricular agenda forward.'

Since 2003, UNISDR Regional Office for Africa has been publishing DRR materials for use in schools in collaboration with UNEP and IGAD. A series entitled 'Safari's encounter with…'[86] has volumes on landslide, drought, floods, and most recently coastal and marine hazards for primary school children, tailored to the features of the IGAD region. The Government of Tanzania and UNISDR Regional Office for Africa produced another document entitled 'Risk Reduction Methods[87]'for Grades 1-3. A separate series[88] was developed to help teachers in African schools explore DRR with their students including water risk, land degradation and environmental protection.

[84] http://unesdoc.unesco.org/images/0021/002170/217036e.pdf
[85] http://reliefweb.int/sites/reliefweb.int/files/resources/EEPCT_DRRCaseStudy_2012.pdf

[86] Coastal and marine hazards: http://www.unisdr.org/we/inform/publications/26439
Drought:http://www.unisdr.org/files/8540_safaridrought1.pdf
Floods (available in English and French): http://www.unisdr.org/files/8534_4081safarifloodsenglish1.pdf
Landslide:http://www.unisdr.org/files/8539_safarisencounterwithalandslide1.pdf
[87] http://reliefweb.int/sites/reliefweb.int/files/resources/EEPCT_DRRCaseStudy_2012.pdf
[88] Water risk: http://www.unisdr.org/files/8542_waterriskafricaaschoolsguideenglish1.pdf
Land degradation: http://www.unisdr.org/files/8543_landuseschool1.pdf
Environmental Protection: http://www.unisdr.org/files/8547_environmentalprotectionschool1.pdf

NETWORK OF TRAINING, RESEARCH AND EXCHANGE

For many years, many different entities have attempted to establish regional research centres or centres of excellence in Africa. Only a few have succeeded. The Partners Enhancing Resilience to People Exposed to Risks (Periperi U) Network is a platform for university partnership to reduce disaster risks in Africa, with a special focus on advancing university action on risk and vulnerability reduction in Africa.

The third recommendation[55], of the 2nd African Ministerial Conference on DRR called on the African Union Commission and Member States to 'create a network of capacity development institutions for training, research, and information management and exchange at country, sub-regional and regional levels in collaboration with international and regional Partners'.

The third recommendation[55], of the 2nd African Ministerial Conference on DRR called on the African Union Commission and Member States to 'create a network of capacity development institutions for training, research, and information management and exchange at country, sub-regional and regional levels in collaboration with international and regional Partners'.

Beginning in 2006,, six locally-relevant risk reduction short courses were conducted by Periperi U in five academic institutions located in Algeria, Ethiopia, South Africa and Tanzania, reaching over 170 practitioners and students and covering a broad portfolio of topics, from seismic vulnerability to community risk assessment. With the aim of strengthening disaster risk-related teaching and learning capacity in institutions across East, West and Southern Africa, the Periperi U partnership has grown to include Ten African Universities.

The United Nations Human Settlements Programme (UN Habitat) has been instrumental in setting up a Sub-Regional Centre for Disaster Mitigation and Sustainable Recovery (DIMSUR). The goal of this project is to carry out groundwork activities and lay the foundations for a sub-regional facility for disaster risk management. Once established, this facility will institutionalise technical and substantive support to national governments (such as those of Comoros, Madagascar, Malawi and Mozambique) as well as to partners in the sub-region in order to deliver more adequate and sustainable DRR activities to vulnerable communities. UN-HABITAT is the principal facilitator in the initial phase, in partnership with UNISDR.

The University Network for Disaster Risk Reduction in Africa (UNEDRA[89]) was formed in October 2005 for the purposes of enhancing capacity development in disciplines central to the goals of reducing disaster risks in Africa. It was initially established by institutions in East Africa and now has 35 member institutions across all regions of Africa (in Uganda, Kenya, Tanzania, DRC, Zambia, Zimbabwe, South Africa, Malawi, Mozambique, Madagascar, Namibia, Angola, Cameroon, Nigeria, Niger, Cote D'Ivoire, Ghana, Senegal, Mali, Algeria and Egypt).

UNEDRA brings together institutions with mandates and interests in DRR. It enables member institutions to undertake collaborative research in water resource management, floods, drought and desertification, geo-hazards, wild fires, epidemics and other subjects of common interest.

Through UNEDRA, member institutions are able to offer shared-credit courses based on a common curriculum for

[89]UNEDRA, http://www.itc.nl/unu/dgim/unedra/default.asp

M.Sc., Diploma and Certificate programmes, as well as exchange opportunities for faculty members and students.

UNEDRA also runs workshops on several areas of DRR and offers specialised training in the use of geographic information systems (GIS) and related technologies for DRR purposes. It also provides advisory services to other institutions, including African National and Regional Platforms for DRR.

UNEDRA is coordinated by the International Institute for Geo information Science and Earth Observation (ITC), Enschede, Netherlands, as part of the UN University-affiliated DGiM programme. Day-to-day management is the responsibility of an executive council consisting of representatives of five member institutions. Funding for the network's operations is provided by ITC and complemented by contributions from member institutions.

Many training tools have been produced by partners to mainstream and lend support to DRR professional capacity building across the continent. Only a few of the many possible examples follow.

- With support from the Government of Germany, UNISDR Regional Office for Africa and the European Commission, the Government of Kenya published a multi-hazard 'Training Package on Natural Hazards and Early Warning for Training of Trainers[90]''.
- UNISDR Regional Office for Africa published a volume to build capacity of water managers in coping with hydro-climatic disasters such as floods and droughts in Africa[91].
- The IFRC, along with the Swedish Civil Contingencies Association (MSB), published a similar Training of Trainers Toolkit derived from extensive Early Warning work in West Africa (Sierra Leone, Liberia and Gambia).

USE OF MULTIPLE KNOWLEDGE SYSTEMS

In 2008, UNEP produced a document entitled 'Indigenous Knowledge in Disaster Management in Africa[92]', which describes DRR-related research in Kenya, Tanzania, Swaziland and South Africa. The study found that indigenous knowledge systems have enabled the various communities in those countries to live in harmony with their environments for generations. These knowledge systems are important tools in environmental conservation (DRR) and disaster management.

While there are a growing number of well-established applications of space-based and other computerized technologies in support of DRR on the continent (and more specifically in early warning), there are many fewer instances attesting to their direct impact at the community level. As only one example, although cellular phone technology and coverage has expanded exponentially – and even faster in Africa than in other continents with promising potential for poverty alleviation and transparency – they have not kept pace with technology. Furthermore, it is becoming increasingly

[90] www.unisdr.org/files/26445_trainingpackageonnaturalhazardslow.pdf

[91] http://www.unisdr.org/files/10358_ManualforHydroclimaticDisastersinWa.pdf

[92] http://www.icsu.org/icsu-africa/news-centre/news/Appendix9IndigenousBookletUNEP.pdf

clear that for most Africans, 'adoption of a new technology does not imply abandoning what they have been already doing or believing'[93].

In collaboration with national DRR agencies, the IFRC and other partners, MSB has systematically made traditional knowledge the foundation for community-driven, EWS designed with the National Red Cross Societies of Liberia, Sierra Leone and The Gambia since 2009. In these Community Early Warning Systems (CEWS), communities are empowered to collect, compile and monitor key indicators that they understand, rather than simply wait forewarnings from an external system. Similar efforts are organised throughout the continent; many are described in the IFRC's Guiding Principles of CEWS[94].

In line with the recommendations above, the same declaration encourages 'the development of capacities of, and partnerships among, Member States to access and utilise existing traditional knowledge, space-based and other technologies for disaster risk reduction'.

3.2.4 Targets

The twelfth recommendation of the 2nd African Ministerial Conference on DRR called on the Member States 'to undertake vulnerability assessments of schools, health facilities and urban centres, and develop and implement plans to ensure their safety and resilience'.

A final approach surfacing from the 18 recommendations endorsed at the 2nd African Ministerial Conference on DRR entailed ensuring that a set of DRR targets was accorded explicit importance by the Member States. These targets included specific mention of communities and local governments, schools, health facilities and municipalities and last but not least, those most vulnerable to risk.

The fifth recommendation of the 2nd African Ministerial Conference on DRR requested 'Member States to decentralize and implement local and community-based disaster risk reduction strategies and programmes, supported by adequate, realistic and predictable funding mechanisms, with an enhanced role for local governments and empower local and regional NGOs, including volunteers'.

COMMUNITIES AND LOCAL GOVERNMENTS

Although local and community-based DRR actors are somewhat equipped to respond to disaster events, a 2012 study on urban risk found that these actors were 'limited by funds, capacity (knowledge and coordination) and infrastructure. 'Slow' has become part of the sector jargon across much of Africa, and many municipal local governments on the continent are not well linked administratively with regional and national authorities'[95].

Since 2004, UNISDR Regional Office for Africa has been instrumental in producing a series[96] of training materials for community leaders in Africa. The series includes volumes on *Environment*, *Land Use*, *Water Risk* and *Poverty Alleviation*. Another volume features DRR and local governance.

SCHOOLS, HEALTH FACILITIES, CITIES → VULNERABILITY ASSESSMENTS

While the volume of DRR work is growing on nearly every level for (building awareness and capacity).There is very

[95] http://www.unisdr.org/files/29935_cityresilienceinafricasansdate.pdf

[96] Water Risk (available in English and French): http://www.unisdr.org/files/8541_waterriskafricacommunityleadersguideenglish1.pdf
Land Use: http://www.unisdr.org/files/8544_landusecommunity1.pdf
Environment: http://www.unisdr.org/files/8548_environmentalprotectioncommunity1.pdf
Poverty Alleviation: http://www.unisdr.org/files/8545_povertyreduction1.pdf
Governance and Development: http://www.unisdr.org/files/8546_governacedevelopment1.pdf

little documented evidence that attests to progress across Africa in conducting vulnerability assessments of schools and health facilities. IUNISDR Regional Office for Africa, is conducting a project that explores DRR cost-effective initiatives in schools and health facilities, through which information about progress on respective vulnerability or risk assessments may be forthcoming.

Under the auspices of UNISDR and UN Habitat, cities and local municipal governments are receiving heightened DRR attention. In a recent publication on cities and climate change[97], UN Habitat highlighted that although Africa has the lowest share of urban population compared to other continents (both 2000 and projected for 2025), the rate of change from 2000 to 2025 of African urban populations living in forested eco zones is expected to increase faster than on any other continent. In fact, the percentage change in all other eco zones (coastal, low elevation, cultivated, dry land and mountain) for Africa in 2025 is second only to Asia.

In 2010, UNISDR launched the global 'Making Cities Resilient 'Campaign ('the Campaign') with the specific focus on improving urban cities' capacity to withstand and recover from disasters. The Campaign was guided by three central principles: 'Know more; Invest wiser; and Build safer', all of which are grounded in the Five Priorities of the HFA. As of October 2012, more than 1,200 cities had signed up the Campaign, thereby committing to take specific actions to build their resilience. These actions are guided by the 'Ten Essentials for Making Cities Resilient' ('Ten Essentials') - a 10-point checklist of factors , developed by UNISDR with multiple stakeholders and partners and deemed fundamental for cities to improve their resilience. Essential 3 – Multi-Hazard Risk Assessment – Know Your Risk, is one of the ten essentials that underscores the importance of assessing vulnerability (risk) in cities.

In 2012, the Campaign produced two tools to help local governments implement the Ten Essentials: The Handbook for Local Government Leaders[98] and the Local HFA-Local Government Self-Assessment Tool (LGSAT) and Practical Guide[99].

The sixth recommendation of the 2nd African Ministerial Conference on DRR requested that the African Union call strongly upon Member States 'to incorporate gender equity and empowerment considerations in implementing the Programme of Action'.

In 2012 UNISDR Regional Office for Africa initiated pilot project to 'operationalize' the Campaign in three cities in Africa – Narok and Kisumu in Kenya and Moshi in Tanzania. The specific objectives of the pilot – 'Making Cities Resilient: My City Is Getting Ready![100]' – were to learn what disaster prevention activities cities were undertaking, make a preliminary assessment of city resilience according to the Ten Essentials and in doing so, understand the Ten Essentials framework in a local African city context. The research concluded that although DRR is not integrated into planning agendas

[97] http://www.unhabitat.org/downloads/docs/GRHS2011/GRHS.2011.Abridged.English.pdf

[98] http://www.unisdr.org/campaign/resilientcities/toolkit/handbook

[99] Template: http://www.preventionweb.net/applications/hfa/assets/lgsat/documents/en/LGSAT_Offline_Template_en.pdf
Practical Guide: http://www.preventionweb.net/applications/hfa/assets/lgsat/documents/GuidanceNote.pdf

[100] http://www.unisdr.org/archive/20837

for any of the three pilot city local governments, there is recognition of DRR's value, importance and potential to guide and improve city-wide risk reduction activities. The result was a document entitled 'City resilience in Africa: A 10-Essentials Pilot'[101].

On the other hand, findings also indicated that simply identifying urban risk fails to address known risk drivers like faulty drainage. The need to link risk identification to solutions was paramount.

UNHabitat joined the campaign with the 'I'm a City Changer[102]'initiative and a campaign document focusing on Africa[103]. UNHabitat has also produced a series featuring in-depth studies in English and French on the 'State of African Cities' for both 2008 and 2010[104]. These studies highlight implications for DRR.

More information on DRR progress in urban settings in Africa is provided in Chapter 6, Specific Themes.

THE MOST VULNERABLE

There is a growing sentiment that when the term *gender* is employed and prioritised in DRR, it transcends longstanding power challenges between men and women to represent instead notions of power struggles of any kind: between employers and employees, between the government and the people, between the wealthiest and the poorest'. In the context of DRR, 'empowerment considerations' even extend to providing early warning messages to visitors or migrants in risk-prone areas, as language barriers commonly impede their safety.

In 2008, UNISDR produced a document entitled: 'Making DRR Gender Sensitive'[105], which concluded that Africa has 'a Regional Plan of Action and Guidelines for Mainstreaming Disaster Risk Assessment into Development, in which the importance of gender is *discussed*. However, not all African countries were at the same stage of development with regard to gender mainstreaming'. In 2009, the AU developed a Gender Policy[106] but this policy does not mention disasters.

Earlier, in 2005, UNHabitat issued a publication entitled: 'Navigating Gender in African Cities' in which the focus lies on water rights and stresses challenges related to gender and the poor.

In 2009 UNISDR commissioned a review by the Gender and Disasters Network entitled: 'The Disaster Risk Reduction Process: A Gender Perspective'. In that document, Africa was considered to be the continent with the highest achievements in terms of gender mainstreaming at the government level, due to the highest number of national reports that referred to women's or gender issues. In fact, Africa has a Regional Plan of Action and Guidelines for Mainstreaming Disaster Risk Assessment into Development, in which the importance of gender is discussed. However, not all African countries are at the same level of progress in

[101] http://www.unisdr.org/files/29935_cityresilienceinafricasansdate.pdf
[102] http://www.imacitychanger.org/imacc/
[103] http://www.unhabitat.org/pmss/getElectronicVersion.aspx?nr=3422&alt=1
[104] http://www.citiesalliance.org/sites/citiesalliance.org/files/UNH_StateofAfricanCities_2010.pdf
[105] http://www.preventionweb.net/files/9922_MakingDisasterRiskReductionGenderSe.pdf
[106] www.africa-union.org/.../african%20union%20gender%20policy.doc

mainstreaming gender in DRR. Some countries are still developing their disaster reduction plans, yet it is expected that this work will provide scope for mainstreaming gender into their policies, legislation and strategies.

It is evident from the elements detailed above that African countries have made solid advances since the HFA was launched, in spite of the continual occurrence of disasters and economic and civil strife. The 2010 Ministerial Declaration and its 18 specific recommendations, which are aligned to the ARSDRR objectives, have laid a strong foundation for the following exploration of sub-regional advances. Regional Economic Communities and the technical entities that support them described below form a main channel through which DRR is most effectively advanced on the continent.

CHAPTER 4: DRR PROGRESS AT THE SUB-REGIONAL LEVEL

4.1 REGIONAL ECONOMIC COMMUNITIES (RECS)

Sub-regional inter-governmental organisations are the cornerstone of regional leadership and coordination. In Africa, the AU and RECs, assisted by UNISDR and other stakeholders, have provided stimulant funding for knowledge events, platforms and training for capacity building, development and technical advice on DRR assessments.

For the most part, disaster and drought risk reduction measures as well as mechanisms for implementation have been established throughout the AU. Planning, development and implementation vary at the sub-regional level, however, in part due to the complexity of disaster impacts in time and space and in part based on a variety of additional factors such as economic, geographical, political will and social diversity across the continent. The sub-regional organisations, however, are contributing to building an enabling environment that better addresses risk in the development sectors of member countries.

Below, the eight AU-recognised sub-regional economic commissions (RECs) are described in alphabetical order; with a focus on their efforts towards DRR (the RECs not formally recognised by the AU are also mentioned). When applicable, reference is also made to the respective Regional Monetary Alliances (RMAs). The activities presented herein are not all-inclusive but rather are meant to illustrate main efforts and progress since 2005. At the end of this chapter, the RICs, or specialised technical entities, are also presented in light of their DRR related contributions. When available, limited information is also provided for three other entities not formally recognised by the AUC: the International Conference on the Great Lakes Region (ICGLR) (with 12 countries), the League of Arab States (LAS) (with 10 of their 20 Member States in Africa) and the Indian Ocean Commission (with 4 of 5 Members States considered part of Africa), Table 5.

Table 5: RECS in Africa

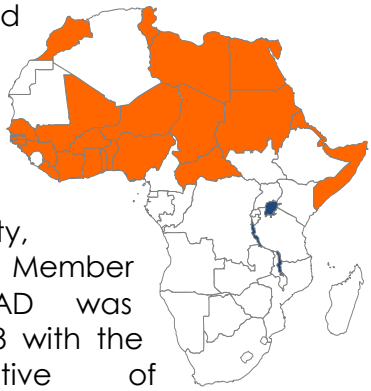
RECs in order of date established	**Number of Member States***
ECOWAS (1975)	15
ECCAS (1983)	10
IGAD (1986)	7
UMA (1989)	5
SADC (1992)	15
COMESA (1994)	19
CEN-SAD (1998)	23
EAC (2000)	5
RECs not recognised by AU:	
LAS, 1946	10 African (out of 22)
IOC, 1984	4 African (out of 5)
ICGLR, 2007	12

* 30 countries are members of 2 RECS
8 countries are members of 3 RECS

4.1.1 REC: Community of Sahel-Saharan States (CEN-SAD)

The Community of Sahel-Saharan States (CEN-SAD) is a REC with UN observer

status. CEN-SAD is the framework for Integration and



Complementarity, made up of 23 Member States. CEN-SAD was created in 1998 with the main objective of establishing a comprehensive economic union focusing on investment in agricultural, industrial, social, cultural and energy fields. It seeks to work with other regional communities and the AU to strengthen peace, security and stability and achieve global economic and social development. This extends to facilitating the free movement of individuals and capital, encouraging foreign trade through the development and implementation of an investment policy for Member States, and harmonising educational, pedagogical, scientific and cultural systems of the various cycles of education.

In spite of recent regional instability, Ministers at the 2012 CEN-SAD Executive Council meeting[107]declared their interest in the reorganisation of CEN-SAD, noting that it should be revived. The Ministers announced that CEN-SAD would stay headquartered in Tripoli, Libya.
Member States of CEN- SAD are Benin, Burkina Faso, Central African Republic (CAR), Chad, Cote d' Ivoire, Djibouti, Egypt, Eritrea, Gambia, Ghana, Guinea Bissau, Liberia, Libya, Mali, Morocco, Niger, Nigeria, Senegal, Sierra Leone, Somali, Sudan, Togo and Tunisia.

[107] Source: http://en.lemag.ma/The-Executive-Council-of-CEN-SAD-opens-its-special-session-in-Rabat_a1680.html

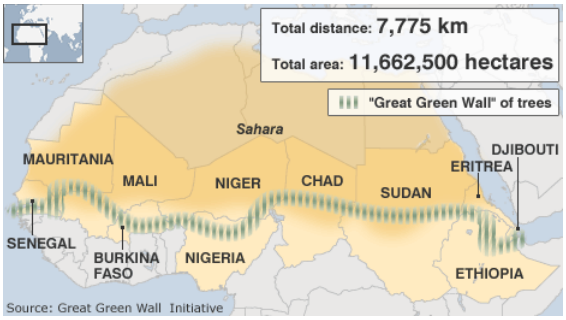
CEN-SAD AND DRR

The Great Green Wall initiative[108] was initiated at the highest political level in Africa as a response to concern for the combined effects of the degradation of the natural rural environment and drought. This initiative was adopted at the Summit of Heads of States and Governments (at Syrte, Libya, July 2005) as a CEN-SAD priority programme.

The AU officially adopted the Great Green Wall initiative in December 2006 in Abuja, Nigeria as one of the pillars of a rural strategy reconciling development and disasters. CEN-SAD adopted the Great Green Wall initiative (Figure 14) as a priority in its rural development and natural resource management strategy, which defines the primary objectives for its interventions in the period leading up to 2015.

For the purpose of regional integration,

Figure 13 Great green wall



the 'natural resources management' component has adopted the following orientations: ensure the consolidation of actions aimed at combating desertification and valorising successful experiences, especially through intra-

[108] The Great Green Wall Initiative of the Sahara and the Sahel: Introductory note No. 3, CEN-SAD/OSS, 2008. http://www.oss-online.org/pdf/imv-en.pdf

regional exchanges; and add momentum to actions pertaining to the combat against desertification through a regional investment programme that could have a tangible, lasting socio-economic and ecological impact.

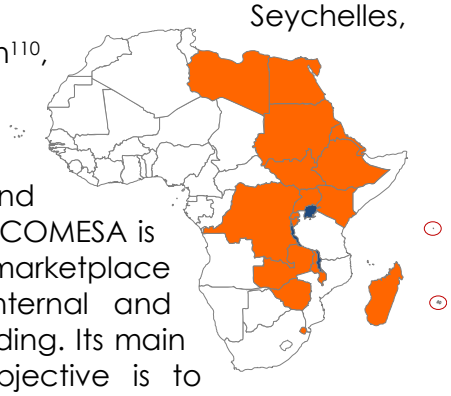
The idea of a greenbelt saw the light of day in the 1950s, long before the United Nations Conference on Combating Desertification (Nairobi, 1977). Its best-known projects are the greenbelt in Niamey, Niger (1965), the green dam in Algeria (1971) and the greenbelt in Nouakchott, Mauritania (1975). In the other countries, reforestation and dune fixation activities have been carried out with the assistance of the forestry departments. Considered as infrastructure, these undertakings provide a public environmental service while contributing to DRR.

Beyond the Green Wall, no other efforts specifically related to DRR were identified for this REC.

4.1.2 REC: Common Market for Eastern and Southern Africa (COMESA[109])

The Common Market for Eastern and Southern Africa (COMESA) was established in 1994 to replace the former Preferential Trade Area (PTA) established more than 30 years earlier. As defined by the Treaty, COMESA was established as an organisation of free independent sovereign states that have agreed to cooperate in developing their natural and human resources for the benefit of all their people. Its main focus is on the formation of a large economic and trading unit that is capable of overcoming some of the barriers that are faced by individual states.

Headquartered in Lusaka, Zambia, COMESA has 20 Member States: Burundi, Comoros, DRC, Djibouti, Egypt, Eritrea, Ethiopia, Kenya, Libya, Madagascar, Malawi, Mauritius, Rwanda, Seychelles, South Sudan[110], Sudan, Swaziland, Uganda, Zambia and Zimbabwe. COMESA is a major marketplace for both internal and external trading. Its main strategic objective is to increase economic prosperity through regional integration. It has a climate change coordinator who doubles as the Disaster Risk Management officer.



Additionally, COMESA offers its members and partners a wide range of benefits that include a wider, harmonised and more competitive market, greater industrial productivity and competitiveness, increased agricultural production and food security, a more rational exploitation of natural resources, more harmonised monetary, banking and financial policies as well as more reliable transport and communications infrastructure. If well-availed and implemented, all these services have the capacity to form the baseline tools for a disaster-resilient society.

[109] http://www.comesa.int

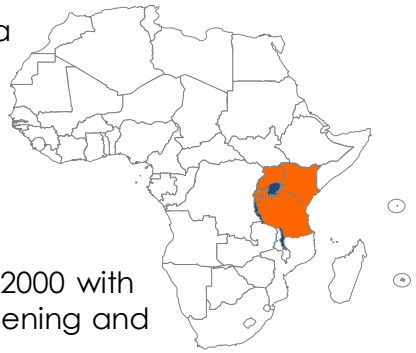
[110] The addition of South Sudan (14 Oct 2011) was not yet confirmed on the official website of COMESA. It was therefore not included in the analysis of country HFA reports in Chapter 6, below.

COMESA AND DRR

COMESA, the EAC and SADC launched a joint five-year Programme on Climate Change Adaptation and Mitigation in December 2011[111]. The Programme, an initiative of the COMESA-EAC-SADC Tripartite, seeks to harmonise climate change programmes by the three regional blocs and address the impacts of climate change in the COMESA-EAC-SADC region through successful adaptation and mitigation actions to enhance economic and societal resilience.

The focus of this joint programme is to increase investments in climate-resilient and carbon-efficient agriculture (climate-smart agriculture) and improve its linkages to forestry, land use and energy practices by 2016. The programme received $20 million funding from the Royal Government of Norway, the European Union Commission (EUC) and DFID, signifying an exemplary partnership between Africa and Europe on climate change.

4.1.3 REC: East Africa Community (EAC[112])



The East Africa Community (EAC) is a regional inter-governmental organisation established in 2000 with the aim of widening and deepening cooperation between the partner states in political, economic and social fields to their mutual benefit. Headquartered in Arusha, Tanzania, the EAC comprises five countries: Burundi, Kenya, Rwanda, Tanzania and Uganda.

EAC AND DRR

In the EAC disaster risk management is under the auspices of the Department of Environment and Natural Resources, which was established in 2012. The EAC has developed various tools to address CCA challenges. For example, the EAC Climate Change Policy emphasizes DRR as a tool for CCA.

Currently, the EAC Secretariat is advancing regional DRR-related policies including the development of a Disaster Risk Management Framework that defines actions for integration of DRR into plans and programs. Part of the implementation of the framework involves a comprehensive EAC Disaster Risk Reduction and Management Strategy (2012-2016), approved in early2013. The strategy is based on the ARSDRR Objectives and HFA Priorities, and focuses on regional areas of joint intervention by the partner states in DRR and disaster management.. The objective of the strategy is to eradicate poverty and promote sustainable development through improving the livelihoods of communities and reducing development risks in the region arising from natural hazards and disasters. In development of the strategy, it is understood that disaster risks result from the interaction between natural, technological or conflict-induced hazards and vulnerability conditions. The strategy will be linked, therefore, to other sectoral strategies to strengthen

[111] http://www.preventionweb.net/english/professional/news/v.php?id=24066&utm_source=pw_search&utm_medium=search&utm_campaign=search

[112] http://www.eac.int

and harmonise implementation and usability.

The EAC seeks to involve communities at all levels in order to map out risks and disaster frequency in a participatory manner. All efforts will be made to incorporate children and young people as key players in DRR and decision-making. This will enhance ownership, trust and commitment by the communities.

Space technology via remote sensing and GIS will be applied for accuracy and supplement community initiatives.

- The EAC is seeking technical support to 1) strengthen the National Platforms for DRR among its partner states and 2) provide regional support to DRR interventions at the sub-regional level through institutional support, programme development, engaging best practices and providing guidance and advocacy material to its Member States
- The EAC is planning to develop a regional report on the progress of ARSDRR and HFA implementation within the EAC Member States. The report will enable the EAC to carry out a comprehensive gap analysis on the status of DRR in the sub-region, a prerequisite for future action plans.

Other key EAC achievements on disaster management and mitigation include:

- Approval of the EAC Climate Change Policy and issuance of a declaration on Food Security and Climate Change by the EAC Summit
- The establishment of the EAC Climate Change Fund and Climate Change Coordination Unit at the EAC Secretariat
- Development of a Regional Climate Change Position as input into the African Common Negotiating Position on Climate Change.
- EAC-COMESA-SADC launch of a five-year climate change initiative (see COMESA).

UNISDR Regional Office for Africa provides support to EAC through a DRR Advisor based in EAC headquarters in Arusha.

4.1.4 REC: Economic Community of Central African States (ECCAS) and RMA (CEMAC)

Headquartered in Libreville, Gabon, the Economic Community of Central African States (ECCAS) is a regional intergovernmental organisation established in 1983 and comprising ten countries: Angola, Burundi, Cameroon, CAR, Chad, Republic of Congo, DRC, Equatorial (EQ) Guinea, Gabon and São Tomé and Principe. The organisation seeks to achieve collective autonomy, raise the standard of living for its populations and maintain economic stability through harmonious cooperation. Its ultimate goal is to establish a Central African Common Market. Goals set by ECCAS have been slowed due to protracted conflict in the region.

ECCAS AND DRR

ECCAS has invested in, or has contributed to, the following efforts to advance the DRR portfolio in the sub-region:

- Heads of State and governments, with the support of UNISDR, and AUC, adopted a sub-regional policy on environment and natural resource management, in line with the objectives of both the ARSDRR and HFA.
- During the sub-regional platform held in October 2012, a three-year DRR plan was developed and adopted by Member States to align ECCAS planning processes with the HFA Framework and the ARSDRR.
- ECCAS, in cooperation with UNISDR and other partners, is mainstreaming DRR/ CCA into ECCAS development programs.
- In 2010, ECCAS endorsed the International Labour Organization (ILO) Yaoundé Tripartite Declaration Action Plan for 2012-2016, which focuses on preparedness and includes provision of mechanisms for early warning and response systems.
- ECCAS held two sub-regional forums: 1) on the application of meteorological forecasts for DRR and 2) to address the gap between climate science research and DRR/CCA programs. United Nations Framework Convention on Climate Change (UNFCCC) negotiators assisted in linking climate risk reduction requirements to the Conference of the Parties (COP) negotiation processes.
- Technical partnerships with the AUC and UNISDR are mobilised around the theme of DRR. Budgetary resources have been allocated for DRR
- In June 2012, ECCAS adopted a regional strategy for risk reduction, disaster management and CCA; an Implementation Framework for the regional strategy; and a declaration expressing strong political commitment.

The Regional Monetary Alliance (RMA) of the Central African region is the Central African Economic and Monetary Community (CEMAC),[113] created in 1994 and operational in 1999. The goal of CEMAC is to promote economic integration and greater solidarity among peoples in the six countries that share a common currency, the CFA franc, including under-privileged countries and regions and ultimately, as reported earlier, to establish a Central African Common Market.

CEMAC's objectives are to promote trade, institute a genuine common market and create greater solidarity among peoples including under-privileged countries and regions. Within that context, CEMAC's priority activities are as follows:

- Develop capacities to maintain peace, security and stability as essential prerequisites for economic and social development;
- Develop physical, economic and monetary integration and;
- Establish an autonomous financing mechanism for ECCAS.

CEMAC AND DRR

UNISDR works closely with CEMAC through ECCAS. A Disaster Risk Reduction Advisor is now posted to assist the region and the Member States of ECCAS/CEMAC with the integration of DRR into their development plans and programs. A crucial part of the integration is to draw upon policies that are sensitive to disaster risk management (DRM) and CCA.

In September 2012, CEMAC participated in the Addis Ababa Declaration in Support of the Implementation of The Global

[113] http://www.cemac.cf

Framework for Climate Services (GFCS). (See Box 9).

4.1.5 REC: Economic Community of West African States (ECOWAS) and RMA (UEMOA)

The Economic Community of West African States (ECOWAS) is a regional intergovernmental organisation headquartered in Abidjan, Côte d'Ivoire. It was established in 1975 and is comprised currently of 15 countries: Benin, Burkina Faso, Cape Verde, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo Its mission is to promote regional integration in all fields of member economies, in particular agriculture, commerce, energy, industry, finance, natural resource, social and cultural matters, transportation and telecommunications. Revisions to the founding treaty in 1993 incorporated articles relevant to strengthening disaster management institutions, the establishment of EWS and the provision of food aid.

ECOWAS AND DRR

ECOWAS has invested in, or has contributed to, the following efforts to advance the DRR portfolio in the sub-region:

- Heads of State representing ECOWAS member countries adopted a regional policy for DRR and a 2010-2015 Plan of Action in October 2009. Both the policy and the plan are well-aligned to the HFA and the ARSDRR.
- The ECOWAS Commission developed and adopted new guidelines with its Member States in order to strengthen National Platforms for DRR in West Africa.
- ECOWAS provided support for the development of National Platforms in Burkina Faso, Cape Verde, and Côte d'Ivoire as part of the Directorate's mandate that calls for the standardisation of capacities for DRR across the region and for the strengthening of Member States' capacities.
- A training workshop on International Disaster Response Laws (IDRL) was organised jointly for West Africa disaster managers and the IFRC in Dakar, Senegal in September 2012.
- In conjunction with this workshop, ECOWAS is preparing to roll out its humanitarian policy for the region and intends to incorporate the IDRL Guidelines into its approach.
- In September 2012, ECOWAS participated in the Addis Ababa Declaration in Support of the Implementation of the GFCS. (See Box 9)
- A pilot project for strengthening National Platforms is being carried out in six Member States: Benin, Gambia, Guinea, Liberia, Mali and Sierra Leone. A second phase, informed by lessons learned from the pilot projects, is to be implemented with additional Member States in 2013.
- ECOWARN, created by ECOWAS and initially established for conflict prevention in the sub-region, recently developed indicators for the monitoring of natural hazards.
- ECOWAS Member States formed a platform for data and information sharing, with particular emphasis on joint

weather forecasting to predict major disasters.

UEMOA AND DRR

Established in 1994 and headquartered in Ouagadougou, Burkina Faso, the Regional Monetary Alliance (RMA) of West Africa is the Economic and Monetary Union (UEMOA[114]). and comprises eight countries: Benin, Burkina Faso, Cote d'Ivoire, Guinea Bissau, Mali, Niger, Senegal and Togo. Headquarters are in Ouagadougou, Burkina Faso.

In November 2012, the President of the ECOWAS Commission and his counterpart at UEMOA signed a Memorandum of Understanding (MOU) on the institutional arrangements for implementing a cooperative agreement and partnership between the two institutions. The MOU seeks to improve aspects of a 2004 agreement of cooperation and partnership between them. It further seeks to ensure that future cooperation between the two organisations will be the most effective in addressing the region's challenges in the service of economic unification and regional integration.

4.1.6 REC: Intergovernmental Authority on Development (IGAD[115])

The Intergovernmental Authority for Development (IGAD) is a regional intergovernmental organisation that was created in 1996. It supersedes the Intergovernmental Authority on Drought and Development (IGADD) that was founded in 1986. Headquartered in Djibouti, IGAD currently includes seven countries: Djibouti, Ethiopia, Kenya, Somalia, South Sudan, Sudan and Uganda.

IGAD AND DRR

IGAD currently has a DRM program, and has also adopted the IGAD Drought Disaster Resilience and Sustainability Initiative (IDDRSI) Strategy (November 2012) with support of Member States and partners. This strategy was developed by the IGAD Secretariat in consultation with Member States, development partners, non-state actors and other stakeholders as a result of the Summit of Heads of State and Government, which convened in Nairobi in September 2011. Those in attendance declared their commitment to end drought emergencies in the IGAD region permanently.

The objective of the IGAD program is to take deliberate steps to enhance DRM capabilities, as well as to improve the capacity of Member States to develop comprehensive DRM strategies and plans through managing the risks rather than the disaster itself (Box 8).

IGAD programme strategies include:

- Elaboration of supporting policies, legislation and agreements for disaster management;
- Development of disaster preparedness strategies and contingency planning processes;
- Improvement of regional collaboration for preparedness and response;

[114] http://www.uemoa.int/Pages/Home.aspx
[115] http://igad.int/

- Strengthening of early warning and information systems and vulnerability analysis;
- Development of education and training for disaster mitigation;
- Improving preparedness for impact and needs assessment and resource mobilisation; and
- Improving preparedness for targeting, implementation and monitoring and evaluation of relief and rehabilitation assistance.

IGAD, with the active involvement and participation of its Member States has developed a comprehensive DRM programme.
IGAD and development partners established two important mechanisms to assist with program implementation; first, the Ministerial Committee in charge of Disaster Risk Management Institutions of the Member States assists with policy and political guidance, and second, the Technical Advisory Panel drawn from Member States assists with technical matters during the implementation period. IGAD has mobilised resources to kick start the programme's implementation and developed a comprehensive Disaster Risk Management Training Kit for Member States.

The status of DRM instruments such as policies, legislation, strategies and national plans of action is currently being reviewed with a view to developing a regional framework of intervention in order to assist Member States with achieving the objectives of the DRM programme.

IGAD has established two key institutions – both considered to be RICs: namely, the IGAD Climate Prediction and Applications Centre (ICPAC) and the Conflict Early Warning and Response Mechanism (CEWARN).

IGAD and its development partners cooperate to support drought resilience approaches in the sub-region by providing an overall framework, guidance and advisory services to Member States, assisting in the initiation of best practice and providing assistance to mitigate cross-border conflicts and migration.

IGAD is planning to develop a regional report on the progress of ARSDRR and HFA implementation within the IGAD Member States. While support is needed to train IGAD Member State representatives in reporting, the ARSDRR and HFA progress report will identify strengths and weaknesses of DRR/CCA in the IGAD region and thus will serve as the basis for future planning.

Box 7: **IGAD leads new initiative to reduce drought risk**
In 2011, the IGAD region was hit by a severe drought that affected more than 13 million people and exacerbated chronic food insecurity to famine levels. In responding to the drought emergency, the heads of state and governments of the Horn of Africa region made a collective decision that called for a strategy to end drought emergencies while emphasizing the need to do things differently (a holistic approach in a regional setting), supported by investment plans at Member State and regional levels. The summit was held in Nairobi and tasked IGAD with the responsibility of leading and coordinating the implementation of the initiative.

In September 2012, IGAD participated in the endorsement of the Addis Ababa Declaration in support of the Implementation of the GFCS. (See Box 9)
(See Box 7).

Future action of IGAD includes the following: strengthening the regional and national DRM institutions in order to sustain accomplishments to date; encouraging the pursuit of community-based DRM/DRR; incorporating community coping mechanisms and indigenous knowledge in early warning; and preparing a sub-regional, multi-hazard atlas and maps that identify cross-border disaster risk issues, particularly for drought, flood, pests and diseases as well as volcanic and tectonic activity.

IGAD has endorsed the 'Supporting Horn of Africa Resilience' (SHARE) initiative, which has received a €250 million contribution from the European Union (EU in May 2012. The first phase (2012-2013), funded by the EU, foresees measures in the drought-affected areas of Somalia, Ethiopia, Kenya and Djibouti. It is designed to improve the resilience of communities and provide better access to safe water and nutrition.

In November 2011, representatives of IGAD convened to ascertain its role in the implementation of the Nairobi Strategy: Enhanced Partnership to Eradicate Drought Emergencies.

UNISDR Regional Office for Africa supports IGAD through a DRR Advisor who is based in Djibouti.

The Regional Monetary Alliance (RMA) and the East Africa Region

In September 2012, the high level task force that is negotiating the EAC's monetary union protocol held its ninth meeting in Kigali, Rwanda. It urged all members to fast-track policy changes so that the protocol can be passed by the end of the year.

Box 8: SADC Disaster Risk Reduction Unit

All SADC Member States have disaster management structures that undertake national activities, sometimes with assistance from international organisations and cooperating partners. When unexpectedly heavy floods displaced more than a million people in southern Africa in 2007, SADC began to meet annually to prepare for future occurrences. SADC established a Disaster Risk Reduction Unit to coordinate regional preparedness and response programmes for trans-boundary hazards and disasters.

The SADC Regional Platform for DRR was inaugurated in 2011.It holds that cooperation in food security policies has led to an effective disaster preparedness and management mechanism through the implementation of programmes and projects aimed at early detection, early warning and mitigation of disaster effects. These programmes include:

- Climate Services Centre (formerly Drought Monitoring Centre)
- Water Programmes; Natural Resources Management Programme
- Agricultural Information Management System
- Regional Remote Sensing Unit
- Regional Vulnerability Analysis and Assessment Program Management Unit.

Source: http://www.sadc.int/themes/disaster-risk-

4.1.7 REC Southern African Development Community (SADC[116])

The Southern African Development Community (SADC) is a regional inter-governmental organisation that began as *Frontline States* in 1980. Its original objective was the political liberation of southern Africa but its objective expanded to include economic empowerment when the treaty that created SADC was signed in 1992. SADC now comprises 15 Member States;

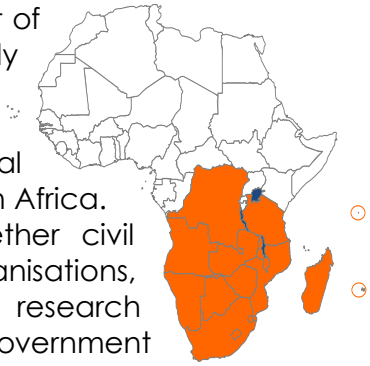
[116] http://www.sadc.int/

Angola, Botswana, DRC, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe. SADC is headquartered in Gaborone, Botswana. Comoros enjoys United Nations observer status.

SADC AND DRR

SADC has invested in, or has contributed to, the following efforts to advance the DRR portfolio in the sub-region.

- Southern Africa Society for Disaster Reduction (SASDiR[117]), a community of practice for DRR within the regional context of SADC, was formally established on 12 October 2012 at its First Biennial Conference in South Africa. SASDiR brings together civil society organisations, academic and research institutions and government entities with a common purpose to reduce disaster risks through a trans-disciplinary focus. SASDiR believes that Africans have the skills, knowledge and competencies to take ownership of their shared disaster risk profile and possess the know-how to find workable African centred solutions to pressing disaster risk issues. SASDiR works on the principle that there is already a wealth of DRR knowledge in the region, which is growing exponentially and which can be shared. SASDiR is open to anyone inside and outside the region with an interest in working on DRR related issues in the SADC region.



- DRM was established as a core SADC regional Programme of Action in 2008;the SADC Secretariat – the organisation's principal executive institution – established a DRR unit in 2009(see Box 8).
- The draft of the SADC DRR strategy and the related Plan of Action are closely aligned to the region's development frame work and to its vision for sustainable development. SADC's DRR strategy integrates with the Regional Indicative Strategic Development Program (RISDP) as well as with the Strategic Indicative Plan for the Organ on Politics, Defence and Security Co-operation (SIPO)[118]
- Early warning systems (EWS) have been strengthened at the sub-regional and national levels (e.g., specialised hydro-metrological networks and climate service centres at the regional and sub-regional level; hydro-metrological networks; and EWS related to food security on the national level).
- EAC-COMESA-SADC has launched a five-year climate change initiative (see COMESA).
- The sub-regional platform for DRR launched multi-sector, regional consultative workshops in 2011. Representatives included the Ministers of Agriculture and Health, UN partners (FAO, OCHA, UNICEF and WHO), several departments of SADC as well as representatives of local authorities (Local Governments for Sustainability-ICLEI) and knowledge centres (Periperi UNetwork).
- The SADC Water Sector developed a hydro-climatic data-sharing protocol agreement for countries along the Zambezi River Basin adding to other data-sharing protocols that exist between hydro-

[117] www.sasdir.org

[118] http://www.sadc.int/files/9113/6492/3812/sipo_en_3.pdf

meteorological services and DRM units at the national level.

- A database of DRR contacts, practitioners and stakeholders in the SADC region was also established.

Box 9: Growing support to RICS

The RECs of CEMAC, ECOWAS, IGAD, SADC and the IOC and ACMAD's RIC declared the following support for the implementation of the Global Framework for Climate Services (GFCS) in Addis Ababa, September 2012:

- Support the implementation of the GFCS in Africa to ensure that the AUC, the RECs and their Member States are enabled to establish and strengthen climate services;
- Support the efforts of the African Ministerial Conference on Meteorology (AMCOMET) to adopt the African Strategy on Meteorology, taking into account the mandate and experience of the existing regional climate centres in Africa (such as ACMAD, AGRHYMET, IGAD, ICPAC, SADC- CSC (climate services centre)) as well as the overall GFCS implementation structure;
- Provide support to CEMAC and the IOC in the establishment of regional climate centres;
- Request AMCOMET and the WMO Regional Association for Africa (RA-I) to implement expeditiously the Strategy through the RECs and their Member States;
- Request that the EU and the AUC include the GFCS implementation in Africa within the Partnership on Climate and Environment of the Joint Africa EU Strategy and to identify funds for its implementation (for example, through the European Development Fund and Global Climate Change Alliance) at the regional , national and continental levels;
- Request that the AUC reinforces its leading role in reaching a common African position in climate change negotiations and in the implementation of GFCS in Africa;
- Request that the international community provides resources for the implementation of GFCS in Africa.

- SADC strengthened the DRR Coordinating Unit through increased staffing levels as well as greater collaboration with, participation of, and support from development partners.
- SADC led a capacity building workshop on the theme of urban resilience along with related forums. Participants included UNISDR, United Cities and Local Governments (UCLG), local authorities from Swaziland and municipalities and political leaders from the SADC region.
- SADC participated in Climate Outlook Forums organised jointly with UNISDR in 2011 and 2012, which established links between DRR/CCA on such hazard related issues as sustainable development, health, water resources and agriculture.
- In September 2012, SADC participated in the Addis Ababa Declaration in Support of the Implementation of GFCS. (See box 9)
- In 2011, SADC, EAC and COMESA launched their joint five-year Programme on Climate Change Adaptation and Mitigation.

The Regional Monetary Alliance (RMA) of Southern Africa

The SADC Committee of Central Bank Governors supports plans to establish a Monetary Union in SADC and is spearheading cooperation among the region's central banks. Establishing a Regional Monetary Union in SADC is one of five goals of the SADC Protocol on Trade and represents a key milestone in the drive for deeper integration with SADC. While the establishment of the SADC Monetary Union is not anticipated until 2016 at the earliest, considerable advances are being made to pave the way for its introduction.

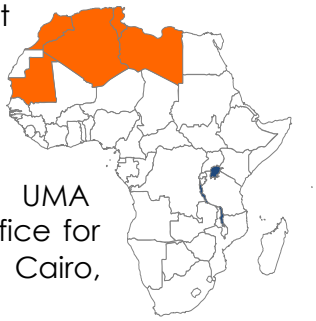
4.1.8 REC: Union of Arab Maghreb (UMA)

In the 1960s, the 1st Conference of Maghreb Economic Ministers convened and established the Conseil Permanent Consultative du Maghreb (CPCM). With

goals to coordinate and harmonise development plans of Member States (Algeria, Libya, Morocco and Tunisia), and strengthen intraregional trade and relations with the EU, but unification of the CPCM was weaker than expected. In 1989, a treaty established the Union of Arab Maghreb (UMA) between Algeria, Morocco, Tunisia, Libya and Mauritania[119]. UMA headquarters are located in Rabat, Morocco.

The 1989 UMA Treaty contained objectives to strengthen all political and economic ties among Member States in order to ensure regional stability, to enhance policy coordination, production and trade, and to provide for broad economic strategies to be followed in the development of agriculture, industry commerce and food security.

Political challenges in the region, such as closed borders between Member States, have strained the completion of the UMA project. To help overcome obstacles and influence political will, the Moroccan Foreign Minister recently called for involvement from youth organisations, civil society groups, trade unions and various professional bodies. Within the context of economic and financial crises, the Moroccan Workers Union (UMT) and the Algerian General Workers Union (UGTA) signed a memorandum of understanding in September 2012 to host annual meetings, pool ideas and build common policy on economic, social and union issues in the Maghreb region[120]. In January 2013, the EU renewed calls for a unified Maghreb as the only way to boost development, ensure stability and security[98].



UNISDR interacts with UMA through its Regional Office for Arab States, based in Cairo, Egypt.

UMA AND DRR

UMA has invested in, or has contributed to, the following efforts to advance the DRR portfolio in the sub-region.

The 10th annual meeting of the Directors of Institutes of Meteorology held in 2010 included several outcomes focused on the impacts of climate, climate change and related risk issues. These included the following noteworthy events:

- Representatives from UMA Member States in attendance agreed to conduct an assessment study of the meteorological institutes in the UMA.
- A training program was established for Maghribi officials working in the climate sector in order to introduce new technologies for better integration and share regional information.
- Communication links were established between Maghribi meteorology centres for information and data exchange networks related to marine forecasts.
- Stakeholders recommended a comprehensive system that facilitates instant analysis of weather through radar images with periodic broadcasting throughout the region.
- A remote sensing and EWS was established that engages current practicing meteorological specialists throughout the UMA.

[119] www.maghrebarabe.org

[120] http://magharebia.com/cocoon/awi/xhtml1/en_GB/homepage/

4.1.9 REC International Conference on the Great Lakes Region (ICGLR[121])

The International Conference on the Great Lakes Region (ICGLR) was established in 2007. Headquartered in Bujumbura, Burundi, the ICGLR is an intergovernmental organisation of twelve countries: Angola, Burundi, CAR, Republic of Congo, DRC, Kenya, Uganda, Rwanda, South Sudan[122], Sudan, Tanzania, and Zambia. The basis for establishing ICGLR was the recognition that political instability and conflicts all have a regional dimension and they require a concerted effort to promote sustainability and peace development. Within this context, the ICGLR's responsibility is to coordinate, facilitate, monitor and ensure the implementation of the 2006 Pact of Security, Stability and Development in the Great Lakes Region. The main divisions of the ICGLR are peace and security, democracy and good governance, economic development and regional integration as well as humanitarian and social issues.

ICGLR AND DRR

Member States have committed themselves to respecting the following common constitutional principles, all of which have implications for DRR:

- Find lasting solutions to guarantee protection and assistance to populations affected by political conflicts in the Great Lakes Region, as well as by humanitarian, social and environmental catastrophes, by implementing a Regional Programme of Action for Humanitarian, Social and Environmental Issues, which has two sub-programmes;
- Promote policies aimed at disaster prevention, protection and assistance and search for durable solutions for refugees and IDPs, as well as for their environment;
- Promote relevant policies to guarantee access to basic social services by populations affected by conflicts and the effects of natural disasters.

ICGLR has also developed a framework for solutions to humanitarian, social and environmental issues under sub-programme 1 of the Regional Programme of Action, entitled 'Framework for Disaster Preparedness, Protection and Assistance to IDPs and their Environment'.

The overall objective of this programme is to devise an all-encompassing framework through which issues linked to the protection and assistance of uprooted communities can be addressed. Protection and assistance also include such areas as compliance with international instruments, property rights of returning populations, the maintenance of the civilian nature of refugee camps and settlements, humanitarian access and the safety of humanitarian workers, environmental restoration and human settlements but also disaster prevention and preparedness and contingency planning.

[121] https://icglr.org/

[122] The addition of South Sudan (24 Nov. 2012) was not yet confirmed on the official ICGLR website.

Six projects were highlighted within this programme, most of which relate to preparedness:

- Compliance with international and regional instruments on human rights, international humanitarian law, issuance of identity documents to IDPs, refugees and statelessness;
- Protection, assistance and search for durable solutions for displaced populations (refugees and IDPs) and the communities that host them;
- Development of a legal framework for issues related to the recovery of land and properties by returning refugees and IDPs;
- Establishment of a regional framework on humanitarian access and the safety of humanitarian workers;
- Environmental assessment, restoration and rehabilitation of human settlements particularly in and around refugee/IDP camps and settlements; and
- Establishment of a regional disaster management and contingency planning mechanism.

4.1.10 REC Indian Ocean Commission (IOC)

The IOC was established in 1984. Although not recognised by the AU, the IOC's goal is to strengthen ties and friendship among the Member States that share a common history, geography, values, culture and interest. The IOC facilitates cooperation among Member States and encourages mutual efforts to respond to crises, foster resource development and promote information and expertise sharing. The IOC is the only African regional organisation comprised entirely of island nations with a specific mandate to address island and oceanic issues. The impact of natural hazards on island states creates additional vulnerabilities in the face of global climate change and rising sea levels. Within this context, the IOC addresses DRR through marine, multi-hazard warning systems. Headquartered in Ebene, Mauritius, the IOC comprisesfive countries: Comoros, France/Réunion, Madagascar, Mauritius and Seychelles. Maldives enjoys observer status[123].

IOC AND DRR

The IOC has invested in the following efforts related to DRR:

- In January 2013, the IOC Council approved a Strategic Development Plan and accepted its priorities for future implementation that include improving sea, air and digital connectivity, , enhancing food security, and the future launch of a regional television channel.
- 'Acclimate', the first IOC regional project, was adopted by the Council of Ministers in January 2013.
- In December 2012, the IOC Member States and territories, along with the Red Cross, gathered on the island of Réunion for their first regional training workshop on disaster law, which introduced participants to international norms for managing humanitarian assistance and ensuring the human rights of affected persons as well as explored the regulatory frameworks within the sub-region.
- In November 2012, the IOC participated in a simulation exercise coordinated by the Platform for

[123] http://politics.ioconline.org/fr/accueil.html

Regional Intervention in the Indian Ocean (PIROI) of the French Red Cross and the IFRC. This exercise brought together for the first time the Red Cross Red Crescent National Societies (RC/RC) and civil societies in the Indian Ocean. The regional coordination strengthens the field in order to better respond to natural disasters[124].

- In September 2012, the IOC participated in the Addis Ababa Declaration in Support of the Implementation of the GFCS. (See box 9)
- In July 2012, the IOC convened a workshop to draft a regional strategy for CCA for the western Indian Ocean islands. The draft strategy builds on the IOC's2010 work on understanding Member States' vulnerabilities to climate change and their common priorities in addressing these challenges. Prioritised areas of concern included; DRR, integrated water management, terrestrial and marine environment, public health, and food security. The strategy awaits approval of the IOC's Council of Ministers.

4.1.11 REC: League of Arab States (LAS)

In 1946, representatives of seven Arab states met in Cairo, Egypt and formally established the League of Arab States (LAS) by Charter. Currently, there are 22 members of the LAS from Africa and the Middle East. The purpose of the LAS is to foster close cooperation among Member States, coordinate political activities, defend states' independence and sovereignty, facilitate overall

interests of the LAS, promote cooperation among Member States in economic, financial, transportation, cultural, health, social welfare, and justice issues, as well as in matters of nationality, passports and visas, among other things. Agreements and treaties signed between individual Member States and other countries do not apply to other Member States. The ten African member countries of LAS are Algeria, Egypt, Djibouti, Libya, Mauritania, Morocco, Sudan, Somalia, Tunisia and Comoros. The permanent headquarters are located in Cairo, Egypt.

LAS AND DRR

The LAS has invested in the following efforts related to DRR:

- In 2010, at the 22nd Session of the Council of Arab Ministers Responsible for the Environment, the Arab Strategy for Disaster Risk Reduction 2020 (ASDRR) was adopted. The ASDRR was also adopted at the Heads of States Summit in Baghdad, Iraq in March 2012. The two-fold purpose of the Strategy is to outline a vision, strategic priorities and core areas of implementation for DRR in the Arab region and to enhance institutional and coordination mechanisms as well as monitoring arrangements to support its implementation at the regional, national and local levels through preparation of a Programme of Action.

- The ASDRR complements on-going efforts in DRR by national institutions and regional technical organisations. Implementing partners of

[124] http://security.ioconline.org/news/read/article/regional-coordination-strengthens-the-field-to-better-respond-to-natural-disasters.html

the ASDRR will focus on multi-sectoral approaches that seek to reduce emerging risks across the Arab region by 2020, in line with the global priorities outlined by the HFA and the MDGs.

4.2 Regional Implementation Centres (RICs)

A number of institutions or agencies have been developed across Africa to provide specialised technical services to both RECs and individual countries. Although the term RIC is not commonly used, it refers hereto all specialised African institutions that have a portfolio of various DRR-related services that respond to predetermined needs in Africa. Most of the entities cited herein provide data management or weather, climate and early warning services. They are presented alphabetically in order of their name in their original language.

4.2.1 The African Centre of Meteorological Applications for Development (ACMAD)

ACMAD, a regional intergovernmental organisation headquartered in Niamey, Niger, that specialises in the weather and climate of the African continent. Created in 1987 by the Conference of Ministers of the United Nations Economic Commission for Africa (UNECA), ACMAD has been operational since 1992. ACMAD comprises 54 Member States in Africa.

ACMAD[125]fulfils its action programmes by operating in a network with a variety of focal points, including the national meteorological services of 54 African states and other partners. The sub-regional economic groups are SADC, ECOWAS, IGAD, CEMAC, CILSS and IOC.

ACMAD AND DRR

ACMAD provides weather and climate information to Member States for DRM and EWS in order to promote sustainable development in Africa (notably within the context of national strategies for poverty eradication) in the fields of agriculture, water resources, health, public safety and renewable energy. ACMAD also provides support to sub-regional meteorological centres in order to improve the use of climate information to enhance DRM programmes.

In February 2012 UNISDR Regional Office for Africa announced its partnership with the ACMAD in order to ensure the rapid dissemination of weather updates to disaster managers. The partnership seeks to forge closer links between the climate science community and disaster managers in Africa with the goal of improved early action at the local, national, regional and international levels by fostering a better understanding of early warning. Structured dialogue between climate scientists and managers will result in better understanding of climate change and the impact on vulnerable communities. The partnership supports the view that global climate change will result in even more extreme events and weather variability, which will impact greatly on disaster management in the future.

In September 2012, ACMAD participated in the Addis Ababa Declaration in Support of the

[125] http://www.acmad.net/quinoussomme_en.html

Implementation of the GFCS. (See, Box 9).

In 2010, the Director General of ACMAD, Mr. Mohammed S. Boulahya, visited the International Research Institute for Climate and Society for institutions and called for the provision of climate change information in language that communities in Africa are able to understand and use.

4.2.2 Africa Monitoring of the Environment for Sustainable Development (AMESD)[126]

Initiated in 2008, the Africa Monitoring of the Environment for Sustainable Development (AMESD) is a programme funded by the 9thEuropean Development Fund and is scheduled to run to at least till mid-2013. AMESD is managed by the AUC in Addis Ababa, with a steering committee comprised of the main AMESD stakeholders: Africa's Regional Economic Communities (ECOWAS, SADC, CEMAC, IGAD and the IOC) with guidance from the African, Caribbean and Pacific (ACP) Secretariat[127]. AMESD provides decision makers in the RECs, the AUC and at the national level with full access to the environmental data and products they need to improve national and regional policy and decision-making processes.

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 that it has the capacity to process data and maintain satellite-receiving stations in the region. AMESD contributes to DRR in Africa while seeking to improve the lives and prospects of the 350 million disadvantaged people in Africa who currently endure poverty and hardship and whose livelihoods depend heavily on the environment.

AMESD AND DRR

AMESD is establishing operational regional information services to support and improve the decision-making processes in environmental management, focusing on the following five themes:

- Water resource management in the CEMAC region, implemented under the leadership of the International Commission of Congo-Oubangui-Sangha Basin (CICOS) in Kinshasa, DRC.
- Agricultural and environmental resource management in the SADC region implemented under the leadership of the Botswana Meteorological Service Department, in Gaborone, Botswana.
- Land degradation and desertification mitigation, and natural habitat conservation in the IGAD region, implemented under the leadership of ICPAC, in Nairobi, Kenya.
- Marine and coastal management in the IOC region, implemented under the leadership of the Mauritius Oceanographic Institute (MOI), in Quatre-Bornes, Mauritius.
- Crop and rangeland management in the ECOWAS region, implemented under the leadership of the Regional Centre for Agro Meteorology and Operational Hydrology (AGRHYMET)of the Permanent Inter-State Committee for Drought Control in the Sahel (CILSS) in Niamey, Niger (see Section 4.2.3 Agro

[126] http://au.int/amesd
[127]http://www.eumetsat.int/Home/Main/News/CorporateNews/804481?l=en

Meteorology and Operational Hydrology).

Each theme is implemented in the region by a RIC that is in charge of creating a regional network of partners to achieve the objectives of the programme.

AMESD showcased their products and services in the African Pavilion at the 17thConference of the Parties (COP17) to the UNFCCC and the 7thMeeting of Parties to the Kyoto Protocol (CMP7), held in Durban, South Africa in late-2011.

The 5thAMESD Project Steering Committee was held in Addis Ababa, Ethiopia in February 2011. The meeting highlighted achievements that included:

- Installation of 60% of the 107 EUMET Cast stations deployed in Africa with all stations scheduled to be operational by June 2011.
- More than 500 trainees have participated in AMESD training activities on various aspects related to earth observation applications. Additional earth observation data are disseminated via EUMET Cast-Africa to provide African users with operational access to key data for their use of such products as THEMA, AVISO oceanographic products, TAMSAT rainfall estimation, MODIS/MERIS-based Ocean Colour products and MODIS/MSG-based fire products over Southern Africa, among others.

4.2.3 Agro Meteorology and Operational Hydrology (AGRHYMET)/ (CILSS)[128]

The Regional Centre for Agro Meteorology and Operational Hydrology (AGHRYMET) was established in 1974 with nine Member States as a specialised institution of the Permanent Inter-State Committee for Drought Control in the Sahel (CILSS). As a public multi-state organisation, AGRHYMET enjoys both legal representation and financial autonomy. Headquartered in Niamey, the Member States are Burkina Faso, Cape Verde, Chad, Gambia, Guinea Bissau, Mali, Mauritania, Niger and Senegal. It has since expanded its coverage and support to 17 countries as the technical arm of ECOWAS.

Its mission is to promote information and training about food security, desertification control and the management of natural and water resources. With the cooperation of the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT), AGRHYMET fosters the use of METEOSAT data for operational and development activities, including rainfall estimates, training as well as agro-meteorological and hydrological applications. AGRHYMET was the reference Regional Centre for Western Africa in the framework of the PUMA Project and is a RIC in AMESD, responsible for the THEMA 'Cropland and Rangeland Management 'in the ECOWAS region[129].

AGRHYMET AND DRR

Partnering with ACMAD, AGRHYMET is actively involved in drought monitoring

[128] http://www.agrhymet.ne
[129]http://www.eumetsat.int/Home/Main/AboutEUMETSAT/InternationalRelations/Africa/SP_1226315215087?l=en

and response policies, drought impact mitigation practices as well as tracking and collecting data (with historical records dating back to 1903).

4.2.4 The International Commission of Congo-Oubangui-Sangha Basin (CICOS)

Headquartered in Kinshasa, DRC, the CICOS was created in 1999 by a group of neighbouring countries in order to manage jointly the region's resources. The immediate objective was to improve cooperation among Member States through improved communication using the Congo River and its tributaries. A future objective is to promote Integrated Water Resources Management (IWRM) in order to enhance development and alleviate poverty in Member States. Member States of CICOS are Cameroon, CAR, DRC and the Republic of Congo.

CICOS AND DRR

CICOS engages with national institutions, working groups, round table workshops and joint training sessions with the GIZ Trans-border Water Management in the Congo Basin. This project seeks to establish joint principles and strategies by which riparian countries manage the Congo Basin, and to improve cooperation in the fields of domestic shipping and water resource management. CICOS committees will be advised on developing strategies for water resource management. By the end of the project in 2015, CICOS plans to have assembled information related to river basin management into a database that will be accessible to institutions in the riparian countries, which will be taking an active role in knowledge management.

4.2.5 ECOWAS Early Warning and Response Network (ECOWARN[130])

The ECOWAS Early Warning and Response Network (ECOWARN) is an observation and monitoring tool for conflict prevention and decision-making. As set out in Article 58 of the revised 1993 ECOWAS Treaty, its establishment and functioning are defined by the Protocol Relating to the Mechanism for Conflict Prevention, Management, Resolution, Peacekeeping and Security, of December 1999. The implementation of ECOWARN began in 2003. ECOWARN is run jointly by ECOWAS (Abuja, Nigeria) and a network of civil society analysts coordinated by the West Africa Network of Peace Building (WANEP), based in Accra, Ghana.

ECOWARN AND DRR

ECOWAS has expanded ECOWARN to provide disaster early warning, with indicators developed for natural hazard monitoring. An emergency fund has been established in order to support ECOWAS Member States affected by natural disasters such as droughts and floods.

In 2010, an ECOWARN training exercise was organised by WANEP with ECOWAS in Ghana, supported by the Government of Finland. The training was aimed at developing greater capacity for the standardised collection and organisation of information based on

[130] http://www.ecowarn.org/

regular observation, recording and reporting on the ECOWARN system.

4.2.6 IGAD Climate Prediction and Application Centre (ICPAC[131])

The IGAD Climate Prediction and Application Centre (ICPAC) is a regional intergovernmental 0rganisation headquartered in Nairobi, Kenya. In 1989, 24 countries in Eastern and Southern Africa established a Drought Monitoring Centre (DMCN) with its headquarters in Nairobi and a sub-centre in Harare, Zimbabwe (Drought Monitoring Centre Harare - DMCH), in response to devastating weather-related disasters. In October 2003, the heads of state and governments of IGAD held their 10thSummit in Kampala, Uganda, where DMCN was adopted as a specialised IGAD institution. At the same time, the name of the institution was changed to IGAD Climate Prediction and Applications Centre (ICPAC) in order to better reflect all its mandates, its mission and its objectives within the IGAD system. A Protocol was signed in April 2017 to integrate the institution fully into IGAD. The centre is responsible for seven member IGAD countries: Djibouti, Eritrea, Ethiopia, Kenya, Somalia, Sudan and Uganda, as well as Burundi, Rwanda and Tanzania (EAC Member States).

ICPAC uses technical and scientific data (including data generated by the use of space technology) and relies on research and expertise to make climatic predictions and forecasts, compile climate risks and hazards maps and provide relevant early warning information. It produces regular, seasonal climate and weather bulletins, updates on El Niño patterns and other climatic phenomena and provides annual climate summaries. ICPAC also hosts regular training and informative workshops for regional users of climate data.

ICPAC AND DRR

ICPAC has been working closely with UNISDR Regional Office for Africa in order to mainstream seasonal climate information into DRR in the Greater Horn of Africa (GHA).

In collaboration with the various national meteorological and hydrological services and with its partners, ICPAC holds two Climate Outlook forums each year for the GHA countries. At these forums, users from various sectors, including agriculture and food security, health, livestock, water resources, media, DRR and others formulate the potential implications of climate forecasts and develop mitigation strategies for the respective countries and sectors.

A meeting was held in May 2012 within the IGAD regional strategy for mainstreaming climate information into key socio-economic sectors for DRR and sustainable development. The theme of the forum was 'Building resilience to climate-related disasters in the Greater Horn of Africa through regional climate forums'. Those in attendance included national experts from the region, regional and international experts involved in seasonal climate prediction, as well as users of climate and early

[131] http://www.icpac.net/

warning advisories from sectors such as food security and DRR[132].

4.2.7 Regional Climate Output Forum (RCOF[133])

Regional Climate Outlook Forums (RCOFs) are active in several parts of the world and routinely provide real-time regional climate outlook products. RCOFs are organised with the overarching goal of producing and disseminating climate information for the upcoming season. Climate experts develop a consensus on the upcoming season and deliver their conclusions to participating user groups who come from climate-sensitive sectors such as agriculture and food security, water, health, and ecosystem management and conservation, in addition to DRM. A regional and national network of climate service providers and user-sector representatives is built into the RCOF process[134].

The RCOF program is supported by ACMAD Member States with additional funding provided by the AfDB and the World Meteorological Organization (WMO) and in some instances, by the World Bank and UNISDR. Météo-France, the UK Met Office, other WMO Global Producing Centres (GPCs) as well as Columbia University's International Research Institute for Climate and Society (IRI) have all provided technical support for RCOF activities.

As no study is currently available that convincingly quantifies the benefits of climate outlook products, RCOF activities rely heavily on project funding of limited duration, usually one to three years. Little effort has been devoted to institutionalising RCOF activity funding through the regular budgets of involved donors and institutions. Financial sustainability, therefore, will rely heavily on the development of research at demonstrates the value of climate services and their usefulness in raising the awareness of policy makers and donors.

RCOF AND DRR

RCOFs communicate their DRR-related efforts at the following forums:

- The Greater Horn of Africa Climate Outlook Forum (GHACOF[135]), coordinated by ICPAC, which covers Burundi, Djibouti, Eritrea, Ethiopia, Kenya, Rwanda, Sudan, Somalia, Tanzania and Uganda. The GHACOF Forum is supported by the USAID/OFDA-funded project 'Climate Prediction and Applications for Disaster Risk Reduction in the Greater Horn of Africa', which WMO coordinates. This Forum is expected to bring together climate scientists involved in seasonal climate prediction, the end- user community and decision makers.

- The South Africa Regional Climate Outlook Forum (SARCOF) is a regional climate outlook prediction and application process adopted by the 14 current Member States SADC: Angola, Botswana, DRC, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe in conjunction with other partners.

[132]http://www.preventionweb.net/english/professional/policies/v.php?id=25490
[133]http://www.wmo.int/pages/prog/wcp/wcasp/clips/outlooks/climate_forecasts.html
[134]Ogallo et al 2008. Cited in http://climate-services.org/

[135] GHACOF statements are available at: http://www.icpac.net/Forecasts/forecasts.html.

SARCOF[136] is coordinated by the SADC Drought Monitoring Centre (SADC-DMC) located in Gaborone, Botswana.

- PRESAO[137], coordinated from Niamey by ACMAD, is an RCOF that is dedicated to West Africa. ACMAD works to improve the provision of weather and climate information and thereby promote sustainable development throughout Africa in the fields of agriculture and food security, water resources, disaster risk management, health, public safety and renewable energy. The latest PRESAO statement as well as previous statements and other related climate outlook products are available online (see link below[138]).

4.2.8 Regional Centre for Mapping of Resources for Development (RCMRD)

The Regional Centre for Mapping of Resources for Development (RCMRD), previously known as Regional Centre for Services in Surveying, Mapping and Remote Sensing (RCSSMRS) was established in Nairobi, Kenya in 1975. Under the auspices of UNECA and the then Organisation of African Unity (OAU), founding Member States were Kenya, Uganda, Somalia, Tanzania and Malawi.

RCMRD has been a longstanding focal point for building capacity in surveying and mapping, GIS, remote sensing and in natural resource assessment and management. RCMRD is a non-profit intergovernmental organisation whose mission is to develop EWS that include environmental monitoring and disaster management; and to develop and coordinate capability and capacity in geo-information, and urban development[139]. It is supported by its 15 contracting Member States: Botswana, Comoros, Ethiopia, Kenya, Lesotho, Malawi, Mauritius, Namibia, Somalia, South Africa, Sudan, Swaziland, Tanzania, Uganda and Zambia.

With approximately 50 staff members, the Centre trains 400-500 people per year. It also implements projects on behalf of its Member States and development partners. The Centre currently has a satellite receiver to receive data and products from the Advanced Synthetic Aperture Radar (ASAR) and the Medium Resolution Imaging Spectrometer (MERIS) sensors, and plans are underway to install a GEONET cast receiver to receive additional earth observation products. The Centre has been active in spatial data infrastructure development in Africa through its contributions to initiatives such as the African Geodetic Reference Frame (AFREF), Mapping Africa for Africa (MAFA) and Spatial Data Infrastructure Africa (SDI-Africa)[140].

RCMRD AND DRR

The United Nations Institute for Training and Research (UNITAR) Operational Satellite Applications Programme (UNOSAT) supports IGAD to develop initiatives that build capacity at regional level to mitigate the effects of disasters. This programme, promoted for IGAD countries, seeks to develop technical capacity and improve knowledge in the

[136] The latest SARCOF statement as well as previous statements are available at: http://www.sadc.int/dmc/index.htm
[137] French: Prévisions Saisonnières en Afrique de l'Ouest
[138] http://www.acmad.ne/en/climat/previ_saison.htm

[139] http://www.ecoprofiles.org/ad_details.php?co=391
[140] http://www.servir.net/africa

use of geo-spatial technologies as an efficient tool for implementing coherent DRR activities. RCMRD[141]supports implementation of the technical component, capacity building and additional backstopping services for the initiative.

The UNOSAT initiative will ensure that knowledge at the technical level is communicated upwards to decision makers and horizontally across sectors essential for mainstreaming DRR, addressing it through a holistic approach integrating climate change and human rights / human security aspects into the capacity development methodology to ensure synergies and further contributions to sustainable development.

Delegates involved in this initiative were drawn from the Agency for Technical Cooperation and Development (ACTED), FAO-Somalia, ICPAC, Kenya Polytechnic University College, UNISDR, RCMRD, KMD, IGAD, CEWARN, AMESD and UNOSAT.

4.2.9 The Sahara and Sahel Observatory (OSS)

In July 1989, a project emerged in the international community for 'an observatory of the Saharan areas, which answers the need to monitor the development of that rapidly deteriorating, fragile, arid region, in order to protect it more effectively'. The project received the support of the Summit of the G7 group of states. In May 1992, the Observatory of the Sahara and the Sahel (OSS) was officially created as an international association at its founding conference in Paris, France and was originally located at UNESCO headquarters.

In February 1997, however, the General Assembly of the OSS met in Niamey, Niger and decided to adopt the status of an international organisation and transferred OSS from its initial host location at UNESCO headquarters to Africa. The Assembly also adopted the OSS 2000 Strategy, which adopted Agenda 21 and the United Nations Convention to Combat Desertification) (UNCCD) as the basis for its strategic framework. Following a March 2000 conference in Rabat, Morocco, the OSS was established as an international organisation in Tunisia under the terms of a Host Agreement between the Government of Tunisia and UNESCO, signed on 18 June 1999 and ratified by Tunisia under law 2000-12 of 7 February 2000.

In April 2004, in Tunis, Tunisia, the 2nd session of the OSS General Assembly adopted the 2010 Strategy. It extended the strategic vision of the organisation to the major Multilateral Environmental Agreements (UNCCD, the United Nations Convention on Biological Diversity (UNCBD), UNFCCC) and to African and international initiatives such as NEPAD and the MDG.

OSS has a clear mission to mobilise and develop the capacities of its members and partners to address environmental problems, sustainable development issues and poverty – with a particular focus on water and land degradation issues. The role of OSS sits squarely within the context of international environmental commitments (e.g., Agenda 21, UNCCD, UNFCCC, UNCBD)

[141]http://www.rcmrd.org/index.php?view=article&catid=1%3Alatest-news&id=202%3Aunitarunosaticpacrcmrd-drr-capacity-development-in-east-africa-using-geo-spatial-technologies-igad-regional-synergy-for-improved-local-impact-technical-meeting-held-at-rcmrd-november-27-2012&format=pdf&option=com_content&Itemid=55

for sustainable development in the arid, semi-arid and dry sub-humid zones of Africa. OSS focuses on enhancing African capacities to produce, manage, share and disseminate information applicable to sustainable natural resource management.

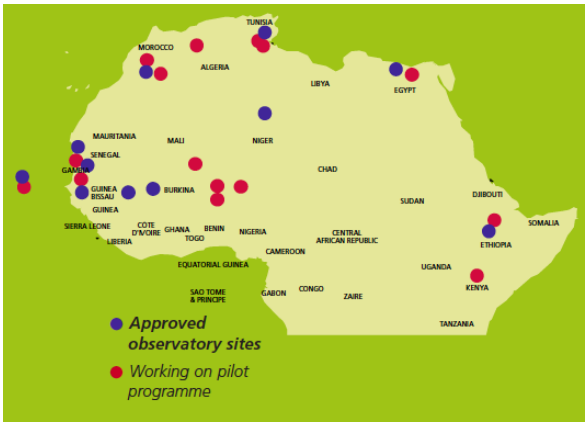
OSS currently supports 22 African countries and has established 11 observatories, with 15 more working on a pilot basis(Figure 15).

OSS and DRR

The OSS has established three pillars for governance. The three basic components of the OSS Environmental Observation and Monitoring Programme seek to strengthen environmental governance in the countries and sub-regions of the OSS and are as follows:

- Environmental monitoring through a growing family of national observatory networks; solution-driven by substantive data;
- Environmental early-warning systems that enable member countries to anticipate predict and adapt to change;
- Impact assessment and monitoring of various measures taken to address environmental degradation and providing guidelines for overall development policies and programmes.

Figure 14: OSS observatories



Chapter 5: DRR PROGRESS AT NATIONAL LEVEL

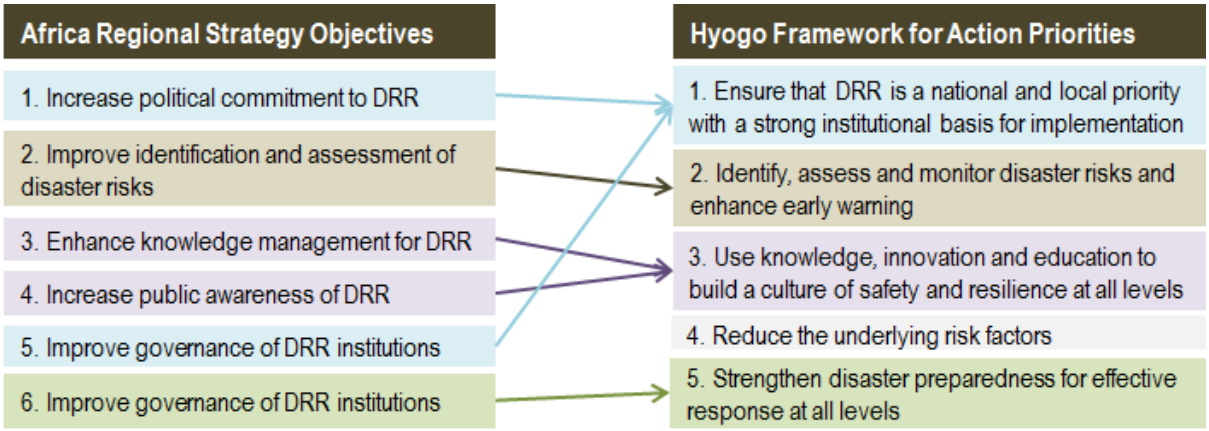
This chapter reviews progress towards the objectives of the Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters (HFA) and The Africa Regional Strategy for Disaster Risk Reduction (ARSDRR).As shown in figure 16, the over-riding similarities of the two frameworks allow for progress at the national level to be monitored simultaneously142.

Data from the most recent reports submitted by 34 countries in Africa using the online HFA Monitor has been compiled and where necessary, complemented by data from both internal and external sources. The following sections present the findings and an analysis of the level and quality of achievements against each indicator for the five Priorities for Action of the HFA and the corresponding Objectives of the ARSDRR. Collective and country-specific challenges are highlighted in order to understand the nature of impediments to continued progress.
Case studies are used to provide examples of good practice. They are drawn from the countries that submitted HFA reports as well as from other countries in Africa whose DRR experience is deemed valuable in the region and beyond.

5. 1 MONITORING PROCESS

Since July 2007,37 of the 54 countries in Africa have officially reported progress at least once using the HFA Monitoring tool (see Box 10).The compilation and Submission of an HFA report is in itself an indicator of prioritisation, commitment and political will. The countries that have responded over the reporting periods should be lauded for their efforts, and for the excellent quality of some of these reports.

Figure 15: Alignment of the Africa Regional Objectives to HFA Priorities



[142] The only significant difference is in the order and that, in the Africa Regional Strategy of 2004, the issue of reducing underlying risks is not explicitly formulated.

Box 10 **Monitoring Implementation of the HFA**

Institutional Responsibilities

The HFA states that it is the combined responsibility of states, regional institutions and international organizations to monitor progress and report accordingly. Among other responsibilities, states are called upon to conduct baseline assessments of the status of DRR, publish and update summaries of National Programmes, and review national progress towards achieving the objectives and Priorities of the HFA.

International organizations – and UNISDR secretariatin particular- are called upon to organize periodic reviews of progress toward the implementation of the HFA. Regional and international organizations are also required to conduct regional baseline assessments and review progress.

Monitoring Tool

A tool for monitoring progress towards the strategic objectives of the HFA (the HFA Monitor) was developed and launched in 2007. It is available on-line and facilitates information sharing. Where countries experience difficulty using the on-line resources, an off-line version of the report can be requested. This tool stipulates the use of 22 core indicators – established to enable consistent measurement in and across countries and regions. These may be complemented by additional indicators relevant to the political, geographical or socio-economic context of each country.

Countries are required to self-assess progress against each indicator on a scale of 1 to 5 using the criteria below. They provide an accompanying narrative to explain which elements of the composite indicators have been achieved and what is lacking. They also highlight the challenges faced in achieving further progress.

Level 1	*Level 2*	*Level 3*	*Level 4*	*Level 5*
Achievements are minor and there are few signs of planning or forward action to improve the situation.	Achievements have been made but are relatively small or incomplete, and while improvements are planned, the commitment and capacities are limited.	There is some commitment and capacities to achieving DRR but progress is not substantial.	Substantial achievement has been attained, but with some recognized deficiencies in commitment, financial resources or operational capacities.	Comprehensive achievement has been attained, with the commitment and capacities to sustain efforts at all levels.

Source: UNSDR, 2008.

It cannot be assumed, however, that commitment to improving DRR does not exist, or that less progress has been made in the countries that have never (or not recently) submitted HFA reports. In some countries, the information required may not have been available or accessible. In those countries experiencing political turmoil or a humanitarian crisis, formal reporting procedures on non-urgent issues may have been de-prioritised.

Although a positive trend was noted in the use of the HFA monitoring tool for the first three reporting periods, the most recent period (2011-13) revealed a decrease in reporting. Tables 6 and 7 show the number of countries submitting in each reporting period, as well as those whose data are compiled in the analysis.

Table 6: Countries submitting HFA Reports for each reporting period

Country	Reported 2005-2007	Reported 2007-2009	Reported 2009-2011	Reported 2011-2013	Country	Reported 2005-2007	Reported 2007-2009	Reported 2009-2011	Reported 2011-2013
Algeria		√	√		Liberia				
Angola		√			Madagascar		√	√	**
Benin					Malawi		√	√	**
Botswana	√		√		Mali			√	
Burkina Faso		√	√	√	Mauritania				
Burundi		√	√		Mauritius	√	√	√	√
Cameroon					Morocco	√		√	√
Cape Verde	√	√	√		Mozambique		√	√	
CAR					Namibia			√	
Chad					Niger				√
Comoros	√		√	**	Nigeria	√		√	
Congo, Rep.of					Rwanda				√
Côte d'Ivoire		√	√		Sao Tome & Prin.				
DRC					Senegal		√	√	**
Djibouti	√			√	Seychelles			√	
Egypt		√	√		Sierra Leone		√	√	**
Eq. Guinea					Somalia				
Eritrea					South Africa				
Ethiopia				√	Sudan				
Gabon					South Sudan				
Gambia				**	Swaziland		√		
Ghana		√	√	**	Tanzania	√	√	√	**
Guinea			√		Togo		√	√	**
Guinea Bissau				**	Tunisia				**
Kenya	√	√	√	√	Uganda				**
Lesotho			√	**	Zambia		√	√	
Libya					Zimbabwe	√			

Total HFA Reports 2005-2007: 10 **Total HFA Reports 2007-2009:** 19

Total HFA Reports 2009-2011: 26 **Total HFA Reports 2011-2013:** 21 √ available online; **interim

Regional Economic Community (REC): % of countries per REC whose submissions are included in this report

CEN-SAD: 61% (of 23 Member States) COMESA: 68% (of 19 Member States)

EAC: 80% (of 5 Member States) ECCAS: 20% (of 10 Member States)

ECOWAS: 87% (of 15 Member States) IGAD: 43% (of 7 Member States)

SADC: 80% (of 15 Member States) UMA: 40% (of 5 Member States)

ICGLR: 45% (11) LAS: 50% (10 African) IOC: 100% (4 African)

Table 7: Submissions by reporting period

Reporting Period	Number of Countries Submitting	% Africa	Used in this report
2005-7	10	19%	0
2007-9	19	36%	2
2009-11	26	49%	18
2011-13	21	39%	14
Total	**37***	**69%**	**34**
17 countries have never submitted			
3 countries have submitted all 4 reporting periods			
* Difference results from countries submitting in 2013 without scores per indicator and no previous report available; they were thus removed from analysis for this version			

5.2 Monitoring Results

5.2.1 Institutional frameworks and governance

Africa Regional Strategy

Objective 1:
Increase political commitment to disaster risk reduction

Objective 5:
Improve governance of disaster risk reduction institutions

In line with HFA Priority 1:
Ensure that disaster risk reduction is a national and local priority with a strong institutional basis for implementation

INDICATOR 1:

National institutional and legal frameworks for disaster risk reduction exist with decentralised responsibilities and capacities at all levels.

Rationale[143]*: A country's constitution, laws and governmental system provide the basis for the development of plans and organisational arrangements for all areas of disaster risk reduction.*

In Africa, there is a clear commitment of the majority of reporting countries to establish strong institutional and legal frameworks for DRR. Scores indicating at least substantial achievement (Level 4 or above) have been reported by nearly 60% of the reporting countries– the second highest scores for any single HFA indicator (out of the total 22 core indicators). The average self-reported national score for this indicator is 3.38 (out of a maximum of 5)[144]. At the REC level, ECCAS (with only two countries reporting out of 10) holds the highest average score (5.0)[145](Table 8).

Table 8: Legal and institutional frameworks

Pan-African Average (N=34)	**3.37**
Countries scoring 4 or 5	*57%*
Average per REC:	
CEN-SAD (N=14/23)	3.00
COMESA (N=13/19)	3.62
EAC (N=4/5)	3.75
ECCAS (N=2/10)	5.00
ECOWAS (N=13/15)	3.15
IGAD (N=3/7)	3.33
SADC (N=12/15)	4.00
UMA (N=2/5)	2.50

In almost all countries of the region, legal frameworks exist for dealing with disasters, but in most countries, these pre-date the HFA and are instead geared towards managing emergency *responses* rather than proactively and systematically reducing the risk of disasters.[146]

[143] Unless otherwise indicated, the rationale for each indicator is taken from Guidelines on Measuring the Reduction of Disaster Risks and the Implementation of the Hyogo Framework for Action, UNISDR, 2008

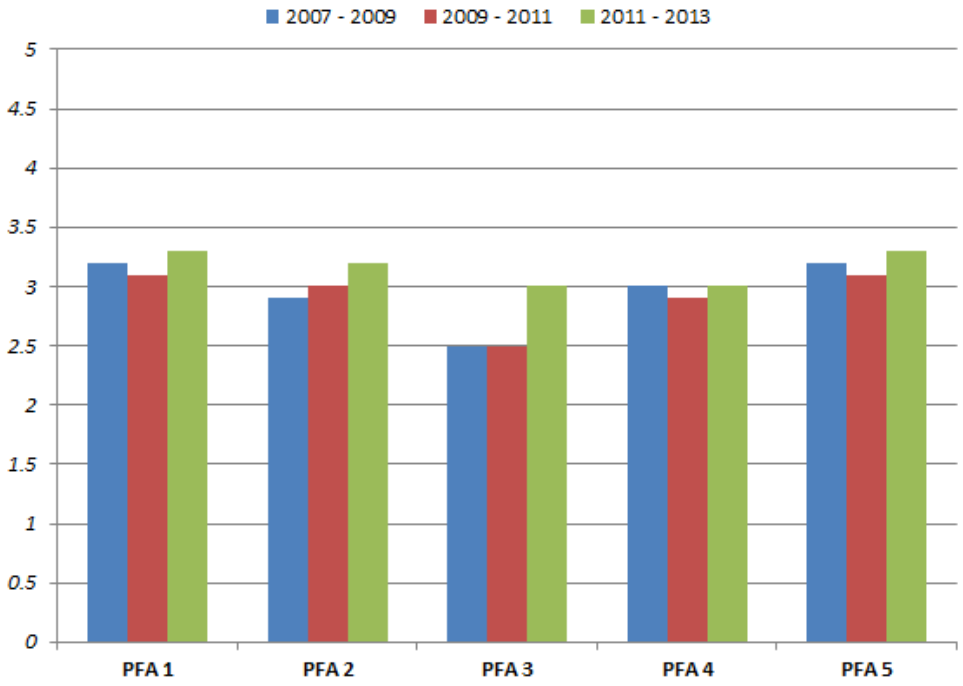
[144] It should be noted that the average scores are derived from the scores of only those countries that reported on HFA monitor. Hence, these scores should be considered only indicative and not a comprehensive picture of progress in disaster risk reduction at any level.

[145] Exceeded only by the four African countries of the Indian Ocean Commission (IOC), unrecognized by the African Union (average 3.5).

[146] *Report on the Status of Disaster Risk Reduction in the Sub-Saharan Africa Region, World Bank, January 2008*

Progress against this indicator is relatively slow as it requires a significant investment of time to draw up, revise

Fig: Progress of African Countries on HFA Priorities for Action (PFA), 2007 – 2013



Source: Computed (only for reporting countries) from HFA Monitoring Reports, (Cycles: 2007-2009, 2009-2011 and 2011-2013)

and approve legislation. However, the IFRC has invested heavily in support of legal frameworks for DRM. Promoting appropriate legislation across Africa, the IFRC has developed guidelines[147] to contribute to national preparedness by supporting the development of domestic legal, policy and institutional frameworks that comply with minimum standards of coordination, quality and accountability. The IFRC currently has specific legislation-related projects in Namibia, Mozambique and Uganda.

IFRC work has included a 2011 review entitled 'Disaster in Africa, the case for legal preparedness'[148] as well as more recent thorough analyses of related legislation in Mozambique, Sierra Leone, South Africa and Uganda.

In the same year, the Government of Uganda approved the Uganda National Disaster Preparedness and Management Policy and elevated Uganda as the only IGAD Member State with an approved DRR/M policy. The mission of the policy is to create an effective framework through which disaster preparedness and management is entrenched in all aspects of the development processes, focusing on saving lives, livelihoods and the country's resources. To translate the policy into action, Uganda, with the assistance of UNISDR and supported by EU funding, developed a roadmap for the development of a strategic national

[147] http://www.ifrc.org/en/what-we-do/idrl/idrl-guidelines/
[148]http://www.ifrc.org/PageFiles/41164/Typefi%20Africa%20Report%20FINAL%20version.pdf

action plan (2012-2016) that uses a multi-stakeholder approach.

In 2012-2013 UNISDR and partners assisted the EAC, Ethiopia and Kenya to move forward on disaster risk management.

In 2012, the IFRC also launched a Disaster Law Database (see link[149]) in which official documents are archived. Since 2005 (when the HFA was endorsed), documents specific to disaster law, policy and plans have been developed and uploaded for at least eight countries representing all regions of Africa: Djibouti, Gambia, Kenya, Madagascar, Namibia, Senegal, Sierra Leone and Zambia.

Given the multi-stakeholder and multi-disciplinary nature of DRR, the leadership of an institution with the capacity to coordinate across ministries and through multiple administrative levels is fundamental to success. As with the orientation of the legal frameworks described above, the scope and mandate of the institutions responsible for DRR in reporting countries reflect the predominant paradigm at the time of their creation.

All reporting countries in Africa have institutions that are mandated to coordinate disaster-related issues. However, as most of these were created to manage disaster relief or through civil protection entities, their authority and capacity to coordinate on risk reduction issues may still be limited. In some cases, their names have been modified to incorporate DRR into their mandates but their functions have changed only marginally.

In a parallel manner, 2010 research on climate governance in Africa[150]theorized that the policy framework for CCA was inadequate in the region and that its institutional positioning within the environment sector limits effective integration. Unfortunately, the same document pays no systematic attention to DRR and presents the two agendas as competing rather than synergistic.

Among countries in the region, Madagascar and Senegal have recently created or reformed institutions to incorporate responsibility for DRR, thereby demonstrating a good understanding of the scope of this concept and a clear political commitment to facilitating progress.

However, some newer institutions in the region do not yet possess sufficient funds or qualified human resources to function effectively, as reported by Djibouti, Swaziland and Togo. Sustained support and investment is needed in order for countries to be able to deliver tangible results.

Effective DRR, then, relies on an institutional framework that coordinates, promotes and facilitates efforts from local to national levels. In the reporting countries, most institutions responsible for disaster management and DRR operate through provincial and district structures, but experience difficulties reaching village or community levels. A majority of countries highlight significant challenges in terms of limited institutional capacities (such as a lack of trained human resources and of

[149]http://www.ifrc.org/en/publications-and-reports/idrl-database/

[150]http://www.za.boell.org/downloads/Climate_Governance_in_Africa.pdf

financial resources) at various or all levels.

Similar challenges in terms of institutional capacities were reported in 2003-2004, when an assessment of DRR was conducted to inform the ARSDRR. These challenges were reiterated in the HFA monitoring reports in 2007 and in the Africa Status Report[109] in 2008. While it is recognised that capacity building takes time, especially when working from national to local levels, this area still calls for attention and investment.

For a thorough compilation of country-level progress in this area across the continent, see UNISDR Inventory of National Coordination Mechanisms, Legal Frameworks and National Plans for DRR in Africa, 2010[151].

INDICATOR 2:

Dedicated and adequate resources are available to implement disaster risk reduction activities at all administrative levels.

Rationale: Dedicated resources refer to funds that are allocated specifically for, and only for, disaster risk reduction.

Minimal substantive progress has been reported against this indicator, with only 38% of countries reporting a substantial or comprehensive achievement (Level of 4 or 5) (Table 9).A few countries reported the absence of any budget for this purpose (Level 1). The highest average scores at the REC level were reported by UMA, EAC and ECCAS (each with 3.5).
No case was reported of a national budgetary allocation specific to DRR. It is generally true that the budgets or resources discussed in the reports are Most often *ad hoc* and/or targeted to developmental risk reduction efforts

Table 9: Dedicated and Adequate Resources

Pan-African Average (N=34)	**3.12**
Countries scoring 4 or 5	38%
Average per REC:	
CEN-SAD (N=14/23)	2.93
COMESA (N=13/19)	3.15
EAC (N=4/5)	3.50
ECCAS (N=2/10)	3.50
ECOWAS (N=13/15)	3.08
IGAD (N=3/7)	3.33
SADC (N=12/15)	3.08
UMA (N=2/5)	3.50

such as epidemic prevention. Countries referenced the immense challenges they face in estimating DRR funding by virtue of its allocation to numerous agencies and levels.

Almost all reporting countries stated that current resourcing levels are not adequate for their requirements[152]. A number of country reports also highlighted key issues concerning the use of such resources, such as time-consuming negotiations for prioritisation and competing agendas.

Many countries, such as Cape Verde, Cote d'Ivoire and Tanzania, reported that funds are allocated primarily for relief and preparedness activities, rather than for incorporating DRR measures into development programmes. Other countries, such as Burkina Faso, Burundi, Comoros, Mauritius, Mozambique, Senegal and Seychelles, reported that dedicated resources are used to integrate some DRR activities into

[151] http://www.preventionweb.net/files/18926_africadrrinventoryfinal.pdf

[152] Quantitative data is not available to enable more precise calculations of the deficits.

development and poverty-reduction programmes.

The national institution responsible for disaster management in Kenya, the then Ministry of Special Programmes, reported difficulties in achieving similar budgetary commitments to DRR as allocated to other line ministries or sectors. In Ghana, despite the allocation of funds for disaster management at all levels of government, these are often under-spent because many institutions that implement development projects are not aware of the benefits of DRR.

A lack of appropriately skilled human resources at various levels has been highlighted specifically by Burkina Faso, Comoros, Djibouti, Malawi, Mozambique, Senegal, Seychelles, South Africa and Swaziland, indicating that most countries are interpreting 'dedicated and adequate resources' in a much broader sense.

INDICATOR 3:

Community participation and decentralisation are ensured through the delegation of authority and resources to local levels.

Rationale: Community participation in disaster risk reduction can be promoted through the adoption of specific policies, the promotion of networking, strategic management of volunteer resources, the attribution of roles and responsibilities and the delegation and provision of the necessary authority and resources.

Awareness of the need to involve local stakeholders in DRR efforts was expressed in the majority of country reports, but a minimum of substantive progress (Levels 4 and 5) was reported, with only 41% of countries reporting such levels of progress (Table 10).Of the eight recognised RECs, EAC had the highest score at 3.25.Overall, this indicator registered the lowest performance of the four indicators included in HFA Priority 1 (with the largest proportion of countries registering a score of 1 or 2).

Table 10: Local / community centred DRR

Pan-African Average (N=34)	**2.97**
Countries scoring 4 or 5	41%
Average per REC:	
CEN-SAD (N=14/23)	3.00
COMESA (N=13/19)	3.08
EAC (N=4/5)	3.25
ECCAS (N=2/10)	2.50
ECOWAS (N=13/15)	3.00
IGAD (N=3/7)	3.30
SADC (N=12/15)	2.92
UMA (N=2/5)	3.00

Most countries reporting lower scores focus on the utilisation or creation of decentralised models to promote community involvement in DRR activities.

However, successful experiences were reported by Cape Verde, Ghana, Madagascar, Malawi and Mozambique, where community participation is promoted through local DRR committees and assemblies. In Madagascar, for example, 177 vulnerable communities have already completed DRR plans, and efforts are being made to involve more community leaders. In Ghana, Disaster Volunteer Groups have been formed, including specific groups to monitor bush-burning practices and reduce the risk of wildfire disasters.

The flood-prone coastal city of Beira in Mozambique was named winner of the

first RISK Award (2012)[153]as a result of its community-centred proposal to put early warning technology 'at the disposal of six Disaster Risk Reduction Committees in the Townships of Beira, which will receive training in people-centred early warning systems'.

People-centred, decentralised CEWS, supported by MSB[154] and IFRC (see guidelines[155]), were also reported by Sierra Leone, Liberia and Gambia. These CEWS empower local communities to either monitor their own indicators (i.e., when outside the coverage of a national EWS) or enable them to understand early warning messages received from outside and to engage in early action.

While a decentralised structure does much to facilitate the participation of actors from local to national levels, it does not guarantee the active participation of communities. In the case of most reporting countries, limited delegation of financial resources and gaps in human resourcing are preventing activities such as community sensitisation campaigns and training workshops from taking place. Some institutions cannot afford the basic transportation and communication costs required to actively engage communities in rural or isolated locations.

INDICATOR 4:

A national multi-sectoral platform for disaster risk reduction is functioning.

Rationale: Engaging the relevant stakeholders in a dialogue about disaster risk reduction will help build a national consensus on the need and priorities for disaster reduction. Such dialogue enhances the awareness of hazards, disaster risk and risk reduction. It can empower vulnerable stakeholders including women and the socially and economically disadvantaged as well as promote action by local governments, private entities, community groups and NGOs through information sharing and coalition building.

A national platform for disaster risk reduction can be defined as a multi-stakeholder forum or committee. It serves as an advocate of DRR at different levels and provides coordination, analysis and advice on areas of priority requiring concerted action through a coordinated and participatory process. It is the principal coordination mechanism for mainstreaming DRR into development policies, planning and programmes at the national level.

As shown in Figure 17, there are currently 40[156]official National Platforms (or national mechanisms which function as National Platforms) in Africa, many of which have been launched through the assistance of UNIDSR.

Substantial or comprehensive achievements (Levels 4 and 5 respectively) were reported by over half of the reporting countries (Table 11). Seven countries reported scores indicating minor progress (1 or 2). The pan-African average is 3.24 and the highest-scoring RECs are EAC and ECCAS (each with an average of 4.0). The notable distribution of scores across all the levels indicates that, while the

[153]http://risk-award.org/risk-award/About-the-RISK-Award.html

[154]Myndighetenförsamhällsskyddochberedskap (MSB)

[155]IFRC, Guiding Principles for CEWS, 2013. http://www.ifrc.org/PageFiles/103323/1227800-IFRC-CEWS-Guiding-Principles-EN.pdf

[156]http://www.preventionweb.net/english/hyogo/national/list/?pid:23&pih:2 and more confirmed elsewhere.

region is demonstrating progress (in terms of the formation of platforms), a significant number of countries still face challenges in terms of their functionality, mandate and resources.

Table 11: National Platforms

Pan-African Average (N=34)	**3.24**
Countries scoring 4 or 5	*56%*
Average per REC:	
CEN-SAD (N=14/23)	2.93
COMESA (N=13/19)	3.31
EAC (N=4/5)	4.00
ECCAS (N=2/10)	4.00
ECOWAS (N=13/15)	2.92
IGAD (N=3/7)	3.33
SADC (N=12/15)	3.50
UMA (N=2/5)	3.50

As reported earlier, UNISDR Regional Office for Africa developed a Toolkit to form or strengthen National Platforms across Africa[157].

In 2012, the capacity of 19 National Platforms across Africa was assessed (Box 11). Results suggest that National Platforms are the most direct route to securing national ownership and leadership on the DRR issue, calling into question their usefulness, though not without challenges. The study determined the quality of National Platform membership across the board to be adequate in addressing national risks properly, both in terms of cross-sector representation of all nationally risk-sensitive sectors and cross-stakeholder engagement, while avoiding the domination of any one stakeholder group over the Platform (such as government, NGOs, the private sector etc.). Twelve out of nineteen National Platforms studied obtained the highest possible scores for membership.
Looking beyond poor overall National Platform score averages and instead at individual capacity indicators, the HFA Monitor reports showed that the main capacity challenges confronting National Platforms in Africa are related to:

- Funding: financial capacity and ownership of National Platforms by Member States;
- Institutional integration within a coherent, national disaster management framework; and
- Limited National Platform activity and impact

5.2.2 Risk identification and assessment

INDICATOR 1:

National and local risk assessments based on hazard data and vulnerability information are available and include risk assessments for key sectors

Africa Regional Strategy

Objective 2:
Improve identification and assessment of disaster risks.

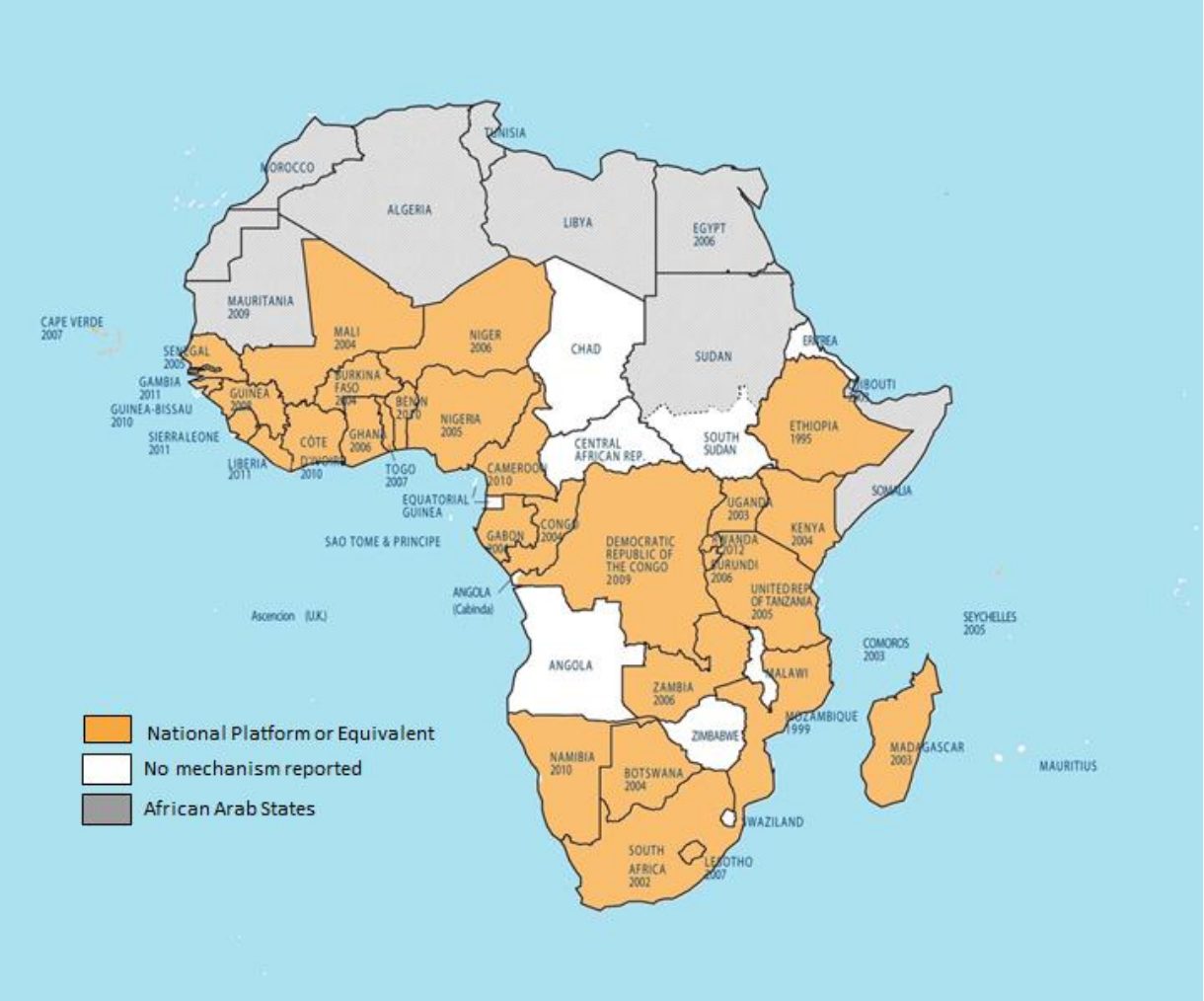
***In line with the* HFA Priority 2:**

Identify, assess and monitor disaster risks and enhance early warning.

Rationale: National risk assessments enable decision makers and the public to build a fundamental understanding of a country's exposure to various hazards and its social, economic, environmental and physical vulnerabilities. These should cover multiple hazards and consider all relevant vulnerability factors so that appropriate disaster risk reduction measures might be identified and implemented without adversely affecting the population or sectors of activity.

[157] http://www.preventionweb.net/files/26441_toolkit4nationalplatformslow.pdf

Figure 17: **National Platforms in Africa with Year of Formation**



In terms of risk identification and assessment, there is increased capacity in some in schools and hospitals, and while disaster loss data is largely available although it often lacks incorporation into a central database. EWS are at times placed under the operation of NGOs and other non-governmental institutions. Often, the meteorological department in African countries is key to the development and provision of warnings and warning systems. However, different means of information dissemination exist, which often make use of the media with varying results.

There exist strong linkages (coordinated at the sub-regional level) with regional specialised institutions for climate change and risk management, such as the previously-mentioned IGAD Prediction and Application Centre (ICPAC) in Eastern Africa and the Horn of Africa; the Climate Services Centre in Southern Africa; and the Africa Centre of Meteorological Application for Development (ACMAD) in West Africa. However, gaps exist in hazard mapping; there is limited data availability; and a failure to take full advantage of resources offered for climate risk management at sub-regional level – all

of which hinder the development of risk reduction programmes, especially at the national level. There is a need to strengthen the capacity of the specialised institutions for climate change and risk management so as to enhance better preparedness planning and early warning of impending disasters.

Box 11 Assessing the Capacity of National Platforms for DRR in Africa

The capacity of 19 National Platforms across 3 RECs (ECOWAS, ECCAS and SADC) was studied in 2012.

The results indicate that, on average, the National Platforms possess low capacity to support the implementation of HFA objectives at the national level (41% average - sample score). This average score masks large discrepancies from country to country; however, with high National Platform capacity scores attained in Comoros (82%), Ghana (78%) and Mauritius (65%), based on responses provided to the study survey and also masks non-existent capacity in the platforms not yet adopted/implemented across East and Western Africa. By way of regional rankings, the SADC region leads the way in National Platform capacity with an average capacity score of 52%, followed by the East Africa bloc and finally, the ECOWAS region where many National Platforms still remain non-operational.

The overwhelmingly low capacity of most National Platforms is evident. This study suggests that National Platforms for DRR across Africa possess only limited capacity to deliver on their stated objectives of national coordination and advocacy for DRR mainstreaming.

Source: Assessing the Capacity of National Platforms for Disaster Risk Reduction in Africa, UNISDR Regional Office for Africa, 2012

Just over 40% of reporting countries in Africa indicated that at least significant progress (Levels4 or 5) has been made against this indicator (Table 12). The pan-African average is 3.21 (out of 5 maximum) and Union de MagrebArabe Africa (UMA) was the highest ranking REC at 3.5 followed by IGAD at 3.33.

Table 12: Risk Assessments

Pan-African Average (N=34)	**3.21**
Countries scoring 4 or 5	41%
Average per REC:	
CEN-SAD (N=14/23)	3.21
COMESA (N=13/19)	3.15
EAC (N=4/5)	3.25
ECCAS (N=2/10)	2.50
ECOWAS (N=13/15)	3.23
IGAD (N=3/7)	3.33
SADC (N=12/15)	3.00
UMA (N=2/5)	3.50

The AU, NEPAD and UNISDR developed an early set of guidelines[158] for mainstreaming disaster risk assessment in development (2004), and UNDP has created the Global Risk Identification Programme (GRIP)[159] to further assist in the standardisation and archiving of risk assessments world-wide The GRIP disaster database portal facilitates centralised access to disaster loss databases worldwide. Disaster loss databases are a simple entry point for a country to begin its risk assessment exercise. GRIP maintains an inventory of national and other disaster databases. Since the initiative was developed in Latin America, Morocco, Egypt, Mozambique and Mali are currently the only national datasets available in this archive.

UNISDR and UNDP are sponsoring the implementation of 'DesInventar', a disaster loss database methodology in Africa (that supports Priority 2). During the 1990s, the concept of DesInventar was originally initiated by practitioners linked to the Network of Social Science Studies in the Prevention of Disasters in Latin America. It has now become a developed concept, methodology, and software application that can track and

[159] www.gripweb.org

collect disaster-related data for disasters of all scales in a systematic, homogeneous and compatible manner. With support from UNISDR and ECHO funding, the Governments of Ethiopia, Kenya and Uganda have all launched national DesInventar databases in 2013. UNISDR is training staff members of RCMRD to enhance regional capacity and establish disaster loss databases throughout the region. UNISDR also has plans to replicate this effort with Senegalese institutions to support implementation in the Francophone African countries.

Some countries have compiled data on hazards but they still lack corresponding data on vulnerability factors to be able to carry out a comprehensive risk assessment. Others have carried out risk assessments for some sectors or particular geographical areas but have not yet achieved full coverage. In several cases, although data exists or risk assessments have been carried out, the information is not yet available to decision makers or is not widely shared (see Indicator 2 below).

Since the drought of 2001-2002, SADC has developed Regional and National Vulnerability Assessment Committees, resulting in significant improvements of Member States' capacities to establish and monitor the impact of drought on conditions of food security.

More often than not, sophisticated risk assessments are undertaken by external entities or consultants without the direct guidance and engagement of African governments and scientific agencies. While useful, the final products are not nationally-owned, are poorly understood and therefore do little to promote DRR governance. One example might be the recent study in North Africa, undertaken to explore the risks that coastal cities will face by 2030. Alexandria, Casablanca and Tunis were studied together with the Bouregreg Valley between Rabat and Salé in Morocco. The study analysed the exposure to hazards such as floods and storm surges, earthquakes and tsunamis, as well as to the increasingly frequent weather extremes associated with climate change.

Many countries have undertaken multi-level, multi-hazard risk assessments, and are making the results available to the relevant authorities and to the public. Ethiopia has been conducting multi-hazard risk assessments by sourcing information from individual households and communities to build district-level risk profiles. These risk profiles then form the basis of local-level DRR planning, EWS and contingency planning.

In Mozambique, the national authority for disaster management (InstitutoNacional de Gestão das Calamidades - INGC) collaborated with GRIP, the Famine Early Warning Systems Network (FEWS NET) and a national university to produce the most recent risk assessment. Further, water management authorities are using the SAHIMS[160] GIS data service to assess risk in the Limpopo river basin.

Several countries spoke of the need to enhance coordination between sectors in order to produce comprehensive risk assessments. For many, financial limitations and a lack of appropriately skilled human resources to undertake assessments are preventing further progress.

[160] Southern Africa Human-development Information Management System

The countries that report minor progress (levels 1 and 2) – Angola, Cote d'Ivoire, Guinea Bissau, Swaziland and Zambia – are endeavouring to overcome significant challenges in terms of the availability of appropriate technical resources and capacity to carry out risk assessments.

INDICATOR 2:

Systems are in place to monitor, archive and disseminate data on key hazards and vulnerabilities.

Rationale: Making information freely available to the public is a big step towards transparency. The appropriate dissemination of information about a country's evolving exposure to various hazards and its social, economic, environmental and physical vulnerabilities motivates concerned actors to position themselves in support of DRR. Sharing information promotes a culture of collaboration.

An average of 38% of reporting countries have made at least substantial progress in this indicator and the pan-African average is 3.18 (out of 5). IGAD was the highest-scoring REC at 3.67(Table 13).

In many cases, geographical or meteorological institutions are responsible for monitoring and managing data on hazards, but the responsibilities and mechanisms for incorporating data on vulnerabilities are unclear. Several countries highlighted the need to increase the participation of all relevant sectors and improve data-sharing mechanisms.

Table 13: Data monitoring systems

Pan-African Average (N=34)	**3.18**
Countries scoring 4 or 5	38%
Average per REC:	
CEN-SAD (N=14/23)	3.21
COMESA (N=13/19)	3.23
EAC (N=4/5)	3.25
ECCAS (N=2/10)	2.50
ECOWAS (N=13/15)	3.31
SADC (N=12/15)	3.08
IGAD (N=3/7)	3.67
UMA (N=2/5)	3.00

In 2008 the Government of Ethiopia established the Disaster Risk Management and Food Security Sector (DRMFSS), a new institution within Ethiopia's Ministry of Agriculture to implement DRM[161] in line with the ARSDRR and the HFA. The district-level disaster risk profiles described earlier are being complemented by the 'Risk Baselines', a database containing records of all disasters in the country. This database has now been integrated into the DesInventar platform for wider dissemination of standardized risk information (see Indicator 1 above).

Capacity building is a forcefully stated need across the region. Even higher-scoring countries reported that additional financial resources are needed to strengthen existing systems and to train users to manage data more effectively. Lower-scoring countries reported that data management systems are yet to be created or made functional. Across most of the continent, the lack of broad access to Internet connectivity or computers, along with low levels of literacy, hinder data sharing. n many settings, the lack of standards for maintaining computer systems or archiving data has resulted in major losses and setbacks, such as in

[161] http://www.preventionweb.net/english/professional/trainings-events/events/v.php?id=21703

the recent loss of the electronic version of Malawi's meteorological archives.

In order to build resilience to disasters in a changing climate, policy-makers and the public must have access to accurate and up-to-date information. The Open Data for Resilience Initiative (OpenDRI) is a global partnership that seeks to build data sharing programs along with the capacity and tools to use data to make more informed decisions. OpenDRI aims to reduce the impact of disasters by empowering decision makers with better information and the tools to support their decisions. GFDRR has recently developed the Horn of Africa Mapping Project, an OpenDRI initiative that seeks to share data collected by various humanitarian and development agencies working on the Horn of Africa response. The purpose of the OpenDRI web platform is to facilitate open access to geospatial information, data and knowledge sources in relation to the on-going response to drought.

Working with the various actors collecting data, partnerships lay the foundation for rebuilding the Horn of Africa region through the collection and dissemination of good information. Most importantly, the World Bank has begun working towards ensuring the sustainability of the initiative by transferring it to regional authorities.

INDICATOR 3:

Early warning systems are in place for all major hazards with outreach to communities

Rationale: Early warning systems empower individuals and communities threatened by hazards to act in sufficient time and in an appropriate manner so as to reduce the possibility of personal injury, loss of life, damage to property and the environment, and loss of livelihoods.

Scores reported for this indicator were the highest for Priority 2 (Table 14). The pan-African average was 3.29 and 44% of the reporting countries attained substantial progress (Level 4 or 5). With the lowest proportion of countries registered at Levels 1 or 2, it is evident that the continent is advancing. SADC and EAC were the highest-scoring RECS at 3.5, with COMESA following closely with3.46.

Table 14: Early warning systems

Pan-African Average (N=34)	**3.29**
Countries scoring 4 or 5	44%
Average per REC:	
CEN-SAD (N=14/23)	3.07
COMESA (N=13/19)	3.46
EAC (N=4/5)	3.50
ECCAS (N=2/10)	3.00
ECOWAS (N=13/15)	3.15
IGAD (N=3/7)	3.33
SADC (N=12/15)	3.50
UMA (N=2/5)	3.00

In Botswana, the only country to report a score of comprehensive progress (Level 5), the Department of Meteorological Services and the National Disaster Management Office (NDMO) issue early warnings regularly to district officials after which the warning is communicated to at-risk communities. Besides radio, television and print

media, mobile telephone SMS technology is used to disseminate early warning information. Reliance on conventional, energy-based technology is a reported concern.

For the Horn of Africa and East Africa, ICPAC provides climate information (including drought) and prediction services for early warning. In Southern Africa, SADC's Drought Monitoring Centre monitors precipitation and ocean-atmospheric interactions to emit early warning messages to affected countries in the region. For West Africa and other sub-regions, ACMAD provides similar services (these entities are described more fully in Chapter 4).

The services provided by specialised regional institutions, coupled with the progressive strengthening of national disaster management institutions, are likely contributing factors to the comprehensive and substantial achievements made to date.

In a majority of countries, however, EWS do not yet include all hazards or extend their coverage to all regions, although Burkina Faso, Burundi, Ghana and Tanzania have included plans for improvement of EWS in their PRSPs. In post-war countries like Sierra Leone and Liberia, the national meteorological services, which were responsible for emitting early warning messages, were destroyed during those conflicts and have not yet been fully reinstalled.

The most commonly highlighted challenge by reporting countries is the capacity to ensure the delivery of warnings to communities at risk. To date, EWS are still primarily top-down technical entities that are reliant upon technology. While Comoros and Madagascar have reported that their EWS reach down to the community level, a number of other countries reported the use of national and local media channels with varying degrees of success.

Other countries indicate that greater collaboration with civil society organisations such as the national Red Cross or Red Crescent Societies or NGOs facilitate the development of end-to-end, people-centred CEWS(Figure 18). To complement the efforts and coverage of national systems, CEWS have been a recent highlight of countries such as Gambia, Liberia and Sierra Leone (Box 12).

Figure 18: 4 components of CEWS
(Adapted from UNISDR)

INDICATOR 4:

National and local risk assessments take account of regional/trans-boundary risks, with a view to regional cooperation on risk reduction.

Rationale: There is a need to cooperate regionally and internationally to assess and monitor regional and trans-boundary risks, exchange information and provide early warnings through appropriate arrangements.

Box 12 **Good Practice across Africa in Community Early Warning Systems (CEWS)**

Northern Africa:

- The Egyptian Red Crescent Society's youth clubs are widespread all over the country, covering all of Egypt's governorates. There are 26 clubs in total with at least 20 sub-branches covering villages and small towns. This network of youth clubs has been influential in transmitting early warnings.

West Africa:

- In Sierra Leone and Liberia (West Africa Disaster Management Capacity Building Project, 2008-12), despite not having a national EWS or meteorological service equipped to issue warnings, the systematic inclusion of authorities representing the National Disaster Risk Management Authority into extended CEWS training across the two countries has enabled an in-depth understanding of people-centered issues in early warning as well as the need to align the efforts for an eventual national EWS.

Horn of Africa:

- Ethiopia's draft National Policy and Strategy on Disaster Risk Management specifically recognizes community-level EWS.
- Save the Children UK's efforts in the Horn of Africa demonstrate that CEWS among pastoral communities provide rich, site-specific information that offers systematic insight into livelihoods as well as hazards and disasters. Results have proven that the monitoring of vulnerability alongside physical hazards enhances understanding of at-risk communities.
- In Somalia in 2008, 20 different organizations from Ethiopia and Kenya participated in a workshop entitled: 'Cross Border Early Warning and Response.' Action points agreed on by all participants included: harmonization of the different monitoring formats, stronger community involvement in data collection and reporting and improved information sharing and dissemination.

Eastern and Southern Africa:

- In Uganda, the agency responsible for technical cooperation and development guides the Rapid SMS Community Vulnerability Surveillance Project, an SMS-based EWS that tracks and maps the most critical trends. The system gathers real-time evidence on any changing vulnerability patterns in the day-to-day life of communities, while identifying and alerting appropriate authorities in areas of urgent need.
- CooperazioneInternazionale/Malawi partners with the Red Cross to organize CEWS for flooding that started with developing IGAs. In addition to making funds available for core daily needs, IGA funds also pay for the river 'gauge readers' (EWS monitors) telephone costs as well as for annual exchange visits with downstream communities.
- In Mozambique and Madagascar, ECHO (DIPECHO) funded EWS were closely linked to the development of multi-purpose cyclone shelters. In off-season, the shelters served as churches or schools whose administrative bodies ensured that they were well-maintained and functional for use during the cyclone season.

Source: Highlights excerpted from the IFRC's Guiding Principles for CEWS, 2013, http://www.ifrc.org/PageFiles/103323/1227800-IFRC-CEWS-Guiding-Principles-EN.pdf

This indicator received the lowest score of HFA Priority 2. The pan–African average was 2.28 and only 29% of the reporting countries gave themselves score of 4 or 5. More than one-third of the reporting countries gave themselves a 1 or 2. IGAD surfaces as the highest-ranking REC at 3.33 (Table 18

Table 15: Regional or trans-boundary DRR

Pan-African Average (N=34)	**2.82**
Countries scoring 4 or 5	*29%*
Average per REC:	
CEN-SAD (N=14/23)	2.64
COMESA (N=13/19)	3.08
EAC (N=4/5)	3.00
ECCAS (N=2/10)	2.00
ECOWAS (N=13/15)	2.69
IGAD (N=3/7)	3.33
SADC (N=12/15)	2.83
UMA (N=2/5)	3.00

Hazards know no borders. They reach beyond administrative, cultural and linguistic boundaries and will affect a rebel zone or an IDP camp in the same way. A DRR/M practitioner must target the full hazard scape[162] regardless of pre-conceived and socially-constructed boundaries. Sound regional cooperation was reported by Ghana, Burkina Faso, Côte d'Ivoire and Togo to monitor risk from epidemics, locust infestations and other pests.

Several countries reported the need for legal and policy frameworks to guide collaborative risk reduction efforts. The lack of formal agreements on integrated water resource management in shared watersheds was cited by Mozambique as an impediment to progress that catalysed efforts in trans-boundary flood management.

A number of countries highlighted the need for greater coordination and action by regional bodies, such as SADC, CILSS[163] and ECOWAS. The policies and plans of these RECs and others have been discussed in more detail in Chapter 4. However, as highlighted in the previous section, information management systems must to be strengthened at the national level in order for regional and trans-boundary international agreements and systems to be effective.

A classic example of the complexity of cross-border issues was a case of an organisation in Malawi that was implementing a river flood-control project by planting grass on the riverbanks. The river itself served as a boundary between two traditional authorities with only one side of the river planted with grass. While the project might have reduced flooding on one side, there was a danger that it could exacerbate flooding on the other side of the riverbank. This case clearly points to the need to consider carefully the entire hazard scape, regardless of boundaries.

The EU and the African-Caribbean and Pacific (ACP) Group of states (of which 48 are African countries) have set up a disaster facility called the 'Cotonou Partnership Agreement'[164]. The main objective of this GFDRR-supported facility is to address the issues of disaster management at regional and national levels. It supports activities that foster cross-border cooperation and mainstream DRM through technical advisory activities. Regional and sub-regional cooperation – to cope with trans-boundary risk reduction efforts (including risk mapping, regional EWS and regional flood risk management in flood risk areas) – area main feature of the facility.

[162] This is a relatively new term to reflect the true borders of a particular hazard. For more information see Khan, 2012:http://www.nat-hazards-earth-syst-sci.net/12/3775/2012/nhess-12-3775-2012.pdf

[163] Comité Permanent Inter-état de Lutte contre la Sécheresse dans le Sahel

[164] http://www.gfdrr.org/sites/gfdrr.org/files/publication/AFR.pdf

5.2.3 Knowledge management, education and public awareness

Africa Regional Strategy
Objective 3:
Enhance knowledge management for disaster risk reduction.

Objective 4:
Increase public awareness of disaster risk reduction.

In line with the HFA Priority 3
Use knowledge, innovation and education to build a culture of safety

Indicator 1:
Relevant information on disasters is available and accessible at all levels, to all stakeholders (through networks, development of information-sharing systems).

Rationale: Information on disaster risks and protection options, especially to populations and local authorities in high-risk areas, should be easily available and understandable to enable them to take actions to reduce risk and build resilience.

Substantial progress (Level 4 or 5) is reported by less than one-third of reporting countries for this indicator. The pan-African average is 2.97 and ECOWAS is the highest-ranking REC at 3.15 (Table 16).

Achievements relating to the application of modern information and communications technology are highlighted by the following examples:

Table 16: Available and accessible DRR information

Pan-African Average (N=34)	**2.97**
Countries scoring 4 or 5	*29%*
Average per REC:	
CEN-SAD (N=14/23)	3.00
COMESA (N=13/19)	2.92
EAC (N=4/5)	2.75
ECCAS (N=2/10)	2.50
ECOWAS (N=13/15)	3.15
IGAD (N=3/7)	3.00
SADC (N=12/15)	2.92
UMA (N=2/5)	3.00

- In Ghana, an innovative, multi-media approach is being taken in order to reach a wide range of users. Information on disasters is made available to a wide range of users through the combined use of a website, didactic handbills, telephones and Very High Frequency (VHF) radios.
- In South Africa, a web-based software package linked to a GIS is being used to enable all spheres of government to coordinate the planning and management of DRR programmes.
- In Madagascar, a website is under development for the general public to access information on risk and vulnerability.

Overall, however, there is a continued need to enhance both the availability and accessibility of information on disasters in Africa. Challenges range from logistical and communication difficulties for remote populations, as reported by Angola, Ghana, Guinea and Kenya, to the need to translate information for lusophone Mozambique. Without doubt, however, the most commonly expressed need is for investment in appropriately- resourced information management systems and networks with national coverage.

INDICATOR 2:

School curricula, education material and relevant trainings include disaster risk reduction and recovery concepts and practices.

Rationale: Incorporating disaster risk-related issues into existing education curricula contributes to continuous learning and reinforces disaster risk reduction knowledge.

For this indicator, there were many more countries reporting low progress (41%) than those reporting substantive or comprehensive progress (29%). The pan-African average was 2.76 and IGAD was the highest-ranking REC at 3.33 (Table 17).

Table 17: DRR in school curricula

Pan-African Average (N=34)	**2.76**
Countries scoring 4 or 5	*29%*
Average per REC:	
CEN-SAD (N=14/23)	2.57
COMESA (N=13/19)	2.92
EAC (N=4/5)	3.00
ECCAS (N=2/10)	2.00
ECOWAS (N=13/15)	2.54
IGAD (N=3/7)	3.33
SADC (N=12/15)	2.83
UMA (N=2/5)	3.00

Two countries – Madagascar and Nigeria – reported comprehensive progress while a number of countries reported encouraging advances:

- In Madagascar, DRR is now fully integrated into the primary education system and educational materials and teacher training resources have been adapted.
- In Sierra Leone, the global campaign 'Disaster Risk Reduction Begins at School' continues to gain momentum. Selected schools in urban centres have incorporated DRR concepts into their curricula, education materials and training schemes, and plans are underway to increase the number of participating schools.
- In Mauritius, where the school curriculum already includes chapters relating to DRR, plans are being developed to introduce information about climate change into primary and secondary school curricula.
- DRR education in Nigeria is mainstreamed into primary and secondary school curricula through the Education Research and Development Council. The National Emergency Management Agency (NEMA) has provided substantial support to the university system in Nigeria since 2009. Six universities, one from each of the geo-political zones of the country, have been identified and supported by NEMA to develop and deliver Masters Degree programmes on Disaster Risk Management and Development Studies[165]. Nationally, the mainstreaming of DRR into primary and secondary school curricula is handled by the Education Research and Development Council, an agency initiated by NEMA.
- Officials in Kenya recognise the far-reaching burden on school-aged children related to disasters and disaster impacts, which often include interrupted or terminated education so that they can help to support their siblings in the pursuit of livelihoods. On the

[165]National Capacity Assessment Report.Federal Republic of Nigeria. July 2012.

other hand, school-aged children are best placed to propagate DRR knowledge to their communities. In collaboration with the Ministry of State for Special Programmes, Ministry of Education, UNICEF and other stakeholders under the umbrella National Platform on DRR, UNISDR has made preliminary attempts to address the issue of mainstreaming DRR into the education system. The Kenya Institute of Curriculum Development, the committee that promotes the inclusion of DRR knowledge into primary and secondary school curricula wants to ensure that a strong and DRR-compliant infrastructure exists while at the same time, meets school-aged children's learning requirements. The committee anticipates that its initiatives will lead the way to building a culture of safety and resilience to disasters at all levels[166].

Several of the achievements outlined above are the result of collaborative efforts and partnerships. In Angola and Burundi, UNICEF is collaborating with the Ministries of Education to support curricular development and provide training for teachers; in Comoros, UNDP is facilitating the production of a student manual for primary schools; in Cape Verde, the national society of the Red Cross is working with Civil Protection to disseminate educational materials on DRR; and in Mozambique, support has been provided by GIZ to produce booklets and brochures for schools.

[166]Mung'oni, M. *Kenya edges closer to mainstreaming DRR in schools*. Disaster Reduction in Africa UNISDR Informs, UNISDR, 2012.

Since 2003, UNISDR Regional Office for Africa has been publishing DRR materials for use in schools in collaboration with UNEP and IGAD. A series entitled 'Safari's encounter with…[167]'offers volumes on landslide, drought, floods and most recently, coastal and marine hazards for primary school children tailored to the features of the IGAD region. UNISDR Regional Office for Africa and the Government of Tanzania also produced another document entitled 'Risk Reduction Methods[168]' for Grades 1 to 3. A separate series[169] was developed to help teachers in African schools explore DRR with their students, with topics including water risk, land degradation and environmental protection.

Several other major international NGOs, such as Action Aid and Plan International, are actively supporting the promotion of DRR in schools, but they are not specifically mentioned by countries in HFA Monitoring reports.

A significant proportion of countries in Africa still report little or minor progress in DRR education. A majority of the countries registering no progress (level 1) are francophone, indicating that more attention should be focused on developing and or exchanging non-

[167] Coastal and marine hazards: http://www.unisdr.org/we/inform/publications/26439
Drought:http://www.unisdr.org/files/8540_safaridrought1.pdf
Floods (available in English and French): http://www.unisdr.org/files/8534_4081safarifloodsenglish1.pdf
Landslide:http://www.unisdr.org/files/8539_safarisencounterwithalandslide1.pdf
[168]http://reliefweb.int/sites/reliefweb.int/files/resources/EEPCT_DRRCaseStudy_2012.pdf
[169] Water risk: http://www.unisdr.org/files/8542_waterriskafricaaschoolsguideenglish1.pdf
Land degradation: http://www.unisdr.org/files/8543_landuseschool1.pdf
Environmental Protection: http://www.unisdr.org/files/8547_environmentalprotectionschool1.pdf

English curricula at the primary-school level. While some countries, such as Togo and Senegal, are beginning to consider relevant changes to their education curricula, others report considerable challenges or opposition to such change. According to reporting countries, further sensitisation to the benefits of establishing a culture of prevention within the education system, coupled with financial support for educational and teacher-training materials, would in all likelihood facilitate future progress.

Important advances in tertiary education are reported by a growing number of countries.

- In Mozambique, a Bachelor of Science degree in Disaster Management was established in 2008 and a Master of Science degree was planned for 2011 at the Eduardo Mondlane University (In Bahir Dar University, Ethiopia, a Master of Science degree in Disaster Risk Science and Sustainable Development has been offered since 2009.
- In Tanzania, the Ardhi University School of Environmental Science and Technology offers a Master of Science degree in Disaster Risk Management.
- In South Africa and Ethiopia, a new internship programme enables students to gain experience in relevant government departments before obtaining a disaster management certificate.

Other sources indicate that tertiary education programmes for DRR are under-reported by the countries, and networks of universities working on DRR, such as Peri-Peri U, are rarely mentioned (see Chapter 3). [170]

INDICATOR 3:

Research methods and tools for multi-risk assessments and cost benefit analysis are developed and strengthened.

Rationale: Authorities at national and regional level have a role to play in strengthening the technical and scientific capacities required to develop, apply and improve risk assessment methodologies.

Although reported achievements concerning this indicator were lower than for any other indicator of the HFA, 15% of reporting countries felt that they have made substantial or comprehensive progress. The pan-African average score was 2.44 and the highest REC average was achieved by IGAD at 3.33 (Table 18).

Table 18: DRR Research methods and tools

Pan-African Average (N=34)	**2.44**
Countries scoring 4 or 5	15%
Average per REC:	
CEN-SAD (N=14/23)	2.79
COMESA (N=13/19)	2.23
EAC (N=4/5)	2.25
ECCAS (N=2/10)	2.00
ECOWAS (N=13/15)	2.77
IGAD (N=3/7)	3.33
SADC (N=12/15)	2.08
UMA (N=2/5)	2.50

In Madagascar, the National Bureau for Disaster Management (BNGRC) and the Meteorological Department are engaged in a process to improve multi-

[170] http://www.phree-way.org/resources/teaching-and-learning/africa/ and www.proventionconsortium.org/themes/default/pdfs/**periperiU**_intro.doc

hazard risk assessment tools. In Tanzania, national universities have undertaken a wide range of basic and applied research to further the understanding of hazards and vulnerability.

Other sources[171] indicate that relevant research is currently being undertaken by universities that offer disaster management or DRR courses in Ethiopia, Kenya, Lesotho, South Africa and Uganda. However, these countries did not provide details of this research or information on these courses. Box 13 includes details of an African university network involved in research on DRR issues.

Mozambique reported that 'the spirit of DRR multidisciplinary research teams, linking academia, DRR institutions, social and economic sectors does not exist and as a result, the existing individual studies are not comprehensive enough'. They claim that to date, DRR-trained human resources are too few to have an impact.

More than half of the reporting countries in Africa acknowledged that little or minor progress (Levels 1 and 2) has been made over the reporting period, citing lack of human and financial resources as the major constraints. The report from Tanzania explained that sufficient incentives do not currently exist for research in DRR. In South Africa, also where little progress has been reported to date, a technical advisory committee has been appointed to develop a strategic research agenda and methodology.

[171] http://www.phree-way.org/resources/teaching-and-learning/africa/http://www.proventionconsortium.org/themes/default/pdfs/**periperiU**_intro.doc
http://www.itc.nl/unu/dgim/unedra/default.asp

Research into cost benefit analysis is not mentioned in any of the country reports, despite the fact that this has been identified as a key driver of greater investment by governments and international donors. The technique is becoming more common, however, as a component of assessing CCA and various future scenarios.

The total score against this indicator was lower than scores against all of the other HFA Monitor indicators, revealing a significant challenge for the underpinning of risk knowledge to further DRR investments and efforts in the region.

INDICATOR 4:

A countrywide public awareness strategy exists to stimulate a culture of disaster resilience, with outreach to urban and rural communities.

Rationale: A country-wide public awareness strategy is a national, long-term plan of action with specific goals that organises how the general population is informed about disaster risk and the ways they can act to reduce their exposure to hazards.

The vast majority of reporting countries confirmed the existence of a public awareness strategy to stimulate a culture of resilience. Comprehensive achievement (Level 5) was reported by Botswana and Gambia and 59% of the reporting countries indicated a score of either 4 or 5 (Table 19). The pan-African average was 3.35 and the highest-ranking RECs were SADC and ECCAS with averages of3.5.

Box 13 Periperi U

Periperi U is a platform for university partnership that seeks to reduce disaster risks in Africa. It stands for 'Partners Enhancing Resilience to People Exposed to Risks' – with a special focus on advancing university action on risk and vulnerability reduction in Africa.

- Beginning in 2006 in five academic institutions located in Algeria, Ethiopia, South Africa and Tanzania, six locally-relevant, risk reduction short courses were conducted by Periperi U, reaching over 170 practitioners and students and covering a broad portfolio of topics, from seismic vulnerability to community risk assessment. With the goal of strengthening disaster risk-related teaching and learning capacity in institutions across East, West and Southern Africa, the Periperi U partnership has grown to include 10 African universities:
- Bahir Dar University (Bahir Dar, Ethiopia)
- Built Environment Research Laboratory (LBE), University of Science and Technology, HouariBoumediene (USTHB) (Algeria)
- Disaster Management Training Centre (DMTC), Ardhi University (Dar Es Salaam, Tanzania)
- Disaster Mitigation for Sustainable Livelihoods Programme (DiMP), Stellenbosch University (Stellenbosch, South Africa)
- Makerere University (Kampala, Uganda)
- University of Ghana (Accra, Ghana)
- University of Antananarivo, (Antananarivo, Madagascar)
- Moi University (Eldoret, Kenya)
- Gaston Berger University (St. Louis, Senegal)

Source: http://riskreductionafrica.org/en/rra-ddr-per/rra-whatisperiperi

Table 19: Public awareness strategy

Pan-African Average (N=34)	**3.35**
Countries scoring 4 or 5	*59%*
Average per REC:	
CEN-SAD (N=14/23)	3.29
COMESA (N=13/19)	3.23
EAC (N=4/5)	3.25
ECCAS (N=2/10)	3.50
ECOWAS (N=13/15)	3.38
IGAD (N=3/7)	3.00
SADC (N=12/15)	3.50
UMA (N=2/5)	3.00

In most countries, the strategies have some limitations in terms of scope and/or outreach. Angola, Comoros, Burkina Faso, Burundi and Kenya reported programmes targeting or reaching urban populations only. Mozambique has programmes to raise awareness of flooding in vulnerable areas but it does not have similar campaigns for other hazards. Mauritius reports that its citizens are well aware of cyclone risk but are less aware of other hazards.

- **Box 14: DRR Media Partnership Workshop in Namibia**

- Effective media strategies for DRR play an important role in helping the general public to understand why disasters occur and what can be done in future to limit their impact on people's lives. In times of crisis, access to accurate information is critical for those affected by the disaster as well as for those who are mandated to respond to it.
- In March 2008, UNDP, in partnership with the Directorate of Emergency Management (DEM) and the Office of the Prime Minister (OPM), organized a two-day DRR Media Partnership Workshop in Windhoek, Namibia.
- The main objective of the UNDP-chaired workshop was to engage the media in a partnership with relevant stakeholders in DRR in order to improve communications before, during and after disaster events, which will facilitate disaster responses and promote preparedness at all levels.
- Discussions among participants at the workshop focused on the National Action Plan for DRR, which was drawn up by the DEM in consultation with various partners. Effective implementation of the Action Plan is regarded as critical to achieving Namibia's Vision 2030 and the MDGs. For this reason, it has become a national priority requiring the participation of government and civil society actors, including the national media.

Source: UNISDR Newsletter 'Highlights', February 2009.

A wide range of popular and mass media techniques are cited in the country reports (see for example, Namibia– Box 14). Exhibitions, banners,

newspapers, radio and television programmes and other electronic media are used to convey messages to all sectors of the population. In Ghana, efforts are made to transmit communications in English and local languages .In Guinea, traditional means of communication such as 'muezzins' (prayer callers) and '*griots*' (bards) are used to embed DRR messages in local cultures. In Liberia, 'town criers' are given an important role in community early warning.

In several countries, the celebration of International Day for Disaster Reduction[172]is used to build the momentum in raising awareness among communities.

The reports of Mozambique and Swaziland refer to the role played by NGOs in raising public awareness of risk, highlighting the potential of multi-stakeholder initiatives to improve outreach in these countries and others in the region.

In 2011, the IFRC produced its 'Public awareness and public education for disaster risk reduction: a guide' (PAPE[173]), which is a compilation of best practices in DRR from around the world. The following highlights from the Public Awareness and Public Education for Disaster Risk Reduction: A Guide (PAPE), provide examples of public messaging or communication systems employed across Africa:

- In Uganda, the Kitgum Red Cross Branch ran two radio talk shows and 40 radio spots on the H1N1 pandemic and trained 15 volunteers who subsequently provided 355 sensitisation sessions that reached 42,000 people.
- In Egypt, avian and pandemic flu-prevention campaign kits for schools were distributed to schools and the Ministry of Education expressed interest in expanding their use for other disaster reduction subjects.
- In Senegal, Mali and Gambia, street artists engage children in what 'risk' means through the use of an outdoor tableau.
- In Mozambique and Angola, drama is used to convey public education messages in DRR; and
- In Malawi, Senegal and Ethiopia Climate Centres use games to stimulate decision-making in weather insurance.

5.2.4 Underlying risk factors

HFA Priority 4:

Reduce the underlying risk factors.

This area is not specified in the AfricaRegional Strategy

INDICATOR 1:

DRR is an integral objective of environment-related policies and plans, including for land use, natural resource management and adaptation to climate change.

Rationale: When environmental and natural resource management policies specifically incorporate disaster risk reduction elements, they can help to reduce the underlying risk factors.

Most reporting countries in Africa stated that they have integrated DRR strategies into environmental policies and plans, particularly in relation to

[172] http://www.un.org/en/events/disasterreductionday/

[173] http://www.ifrc.org/Global/Publications/disasters/reducing_risks/302200-Public-awareness-DDR-guide-EN.pdf

natural resource management and adaptation to climate change.

Although no country claimed comprehensive progress (Level 5), the pan-African average score was 3.30 and 58% of the reporting countries have made at least substantial progress (Table 20).IGAD has the highest average among RECs, at 4.0 (Table 20).

Table 20: DRR 'mainstreamed' into sectoral policies

Pan-African Average (N=34)	**3.30**
Countries scoring 4 or 5	*58%*
Average per REC:	
CEN-SAD (N=14/23)	3.29
COMESA (N=13/19)	3.23
EAC (N=4/5)	3.50
ECCAS (N=2/10)	3.00
ECOWAS (N=13/15)	3.31
IGAD (N=3/7)	4.00
SADC (N=12/15)	2.83
UMA (N=2/5)	3.50

Many countries strongly emphasised the challenge of multi-sectoral coordination as an impediment to more effective implementation of DRR policies and plans. Nevertheless, a growing awareness of the relationship between natural resource management and disaster risk is evident in the formulation of the national development plans of reporting countries and others in the region.

The PRSPs of Benin, Comoros, Ethiopia, Gambia, Ghana, Liberia, Malawi, Mozambique, Niger, Nigeria, Senegal, Tanzania, Togo and Zambia include an analysis of the interaction of natural hazards and environmental vulnerabilities, and incorporate objectives or strategies to reduce disaster risk within environmental and natural resource management frameworks[174]. In addition, the UNDAFs[175] of Comoros, Guinea, Kenya, Mozambique and Senegal include commitments to reducing disaster risk. Of the 31 countries in the region that have created a National Adaptation Programme of Action (NAPA), at least 19 of these include a project that is focused explicitly on reducing the risk of climate-related disasters.

The majority of these involve the creation or improvement of climate monitoring and EWS, linked to flood, drought or food security. The NAPAs of Cape Verde, Malawi, Mauritania, Sudan and Tanzania include specific DRR activities that focus on water management, while those of Guinea, Ethiopia and Tanzania include innovative DRR projects for the agricultural sector. While the formulation of these programmes represents a key step towards the alignment of CCA and DRR agendas, little progress has been made in terms of implementation. Making NAPAs operational requires clarification of global funding policies and institutional arrangements that are still the subject of on-going multi-lateral negotiations under the UNFCCC. Table 21 shows the presence of DRR strategies within PRSPs, NAPAs and UNDAFs of the countries of Africa.

[174] Desk review of PRSPs and NAPAs by Helene Lafferty, UNISDR

[175] Desk review of UNDAFs by AliouDia, UNISDR

Table 21: Presence of DRR Strategies in Key National Plans

Country	PRSP	NAPA	UNDAF	Country	PRSP	NAPA	UNDAF
Algeria				Libya			
Angola				Madagascar	□		
Benin	□	□		Malawi	□	□	
Botswana				Mali	□		
Burkina Faso	□	□	□	Mauritania	□	□	
Burundi	□	□		Mauritius			
Cameroon	□			Morocco			
Cape Verde	□	□		Mozambique	□	□	□
CAR		□		Namibia			
Chad	□			Niger	□		
Comoros	□	□	□	Nigeria	□		
Congo, Rep. of				Rwanda	□	□	
Côte d'Ivoire				Sao Tome &Principe		□	
Djibouti				Senegal	□		□
DRC	□			Seychelles			
Egypt				Sierra Leone	□	□	
Equatorial Guinea				Somalia			
Eritrea				South Africa			
Ethiopia	□	□	□	Sudan		□	
Gabon				South Sudan			
Gambia	□	□		Swaziland			
Ghana	□			Tanzania	□	□	
Guinea		□	□	Togo	□		
Guinea-Bissau		□		Tunisia			
Kenya	□		□	Uganda	□	□	
Lesotho	□	□		Zambia	□	□	
Liberia	□			Zimbabwe			

INDICATOR 2:

Social development policies and plans are being implemented to reduce the vulnerability of populations most at risk.

Rationale: When social development policies and plans are implemented to address such issues as food security and public health, they can help to reduce underlying risk factors.

Less than half (44%) of reporting countries in Africa indicated the existence of policies and/or plans that seek to reduce different forms of vulnerability (Table 22). The pan-African average is 3.12 and ECCAS and UMA had the highest-average among RECs (each with 3.5).

Table 22: Social development policies/plans

Pan-African Average (N=34)	**3.12**
Countries scoring 4 or 5	44%
Average per REC:	
CEN-SAD (N=14/23)	2.86
COMESA (N=13/19)	3.15
EAC (N=4/5)	3.25
ECCAS (N=2/10)	3.50
ECOWAS (N=13/15)	2.92
IGAD (N=3/7)	3.33
SADC (N=12/15)	3.33
UMA (N=2/5)	3.50

A review of the PRSPs of reporting countries and others in the region shows that Burundi, Cameroon, Chad, Ethiopia, Kenya, Lesotho, Madagascar, Malawi, Niger, Rwanda, Senegal, Tanzania, Togo and Zambia have made linkages between social development and DRR, and are implementing social protection programmes for the most vulnerable sectors of their populations. However, this linkage has not yet been

made explicit in the majority of UNDAFs for these same countries or others in the region.

Undoubtedly, the major challenge for national governments remains the availability of financial resources to address social development needs in Saharan Africa. While additional funding is principally sought through bilateral or multi-lateral aid agreements, it is surprising that countries' HFA reports do not include more details of collaboration with INGOs operating in the region. Chapter 7 below explores international contributions in the region.

INDICATOR 3:

Economic and productive sectoral policies and plans have been implemented to reduce the vulnerability of economic activities.

Rationale: Focusing on the protection of a state's most vulnerable economic activities and productive sectors is an efficient strategy to help reduce the overall impact of disasters.

Less than one-third (29%) of reporting African countries considered their achievement on this indicator to be substantial or comprehensive enough to protect their economic and productive sectors from disaster risk (Table 23). The pan-African average was low at 2.94 while EAC and UMA had the highest average score among the RECs (each with 3.5).

Table 23: **Economic and productive plans**

Pan-African Average (N=34)	**2.94**
Countries scoring 4 or 5	*29%*
Average per REC:	
CEN-SAD (N=14/23)	3.07
COMESA (N=13/19)	3.15
EAC (N=4/5)	3.50
ECCAS (N=2/10)	2.50
ECOWAS (N=13/15)	3.08
IGAD (N=3/7)	3.33
SADC (N=12/15)	2.50
UMA (N=2/5)	3.50

Countries that reported some limited progress in this indicator highlighted the following achievements:

- Policies to reduce disaster risk for economic and productive activities were reported by Cape Verde, Republic of Congo, Madagascar, Mozambique, Sierra Leone, Swaziland and Tanzania.
- In Togo, the regional ECOWAS framework for economic development and resilience is being used to guide national plans for relevant sectors.
-

Box 15: **Weather-indexed Insurance, Progress across Africa**

Index-based weather insurance has been gaining popularity in developing country contexts, thanks in no small part to the increasing availability, speed and reliability of data that can be monitored from a distance, such as through remote sensing. Such risk-transfer methods have been piloted in developing countries since the early 1990s. The pilots of Malawi (2005) and Ethiopia (2006, three different pilots, one supported by World Bank and WFP) are the most well-known and studied in the African region.

- Dec. 2012: Oxfam America and The Rockefeller Foundation announced a weather index insurance payout on an unprecedented scale directly to poor farmers. Thanks to a groundbreaking new program that relies on advanced satellite technology, more than 12,200 farmers in 45 villages in Northern **Ethiopia** benefited from drought protection. As a result of that year's drought conditions, each farmer received a share of the total $322,772 in payouts offered through the Horn of Africa Risk Transfer for Adaption Program (HARITA) to help cover crop losses.

- Based on HARITA's success, Oxfam America and the WFP agreed in 2010 to implement the HARITA model on a multinational scale by launching the R4 Rural Resilience Initiative (R4 in short, referring to the four risk management strategies that the initiative integrates: risk reduction, risk transfer (insurance), risk taking (credit), and risk reserves (savings). R4 will operate across four counties, including **Ethiopia and Senegal**- uniting Oxfam America's HARITA model and WFP's extensive network of safety nets and cash-for-work programs. Under R4, WFP programs will operate as 'insurance-for-work' for the poorest of the participating farmers
-
- The International Finance Corporation's (IFC) Global Index Insurance Facility (GIIF) recently signed its first partnerships in Africa to expand access to insurance to some 35,000 farmers and 5,000 herders in Kenya and Rwanda over the next three years. Backed by the EU and Netherlands, the facility will work in a number of emerging markets with an initial focus on Sub-Saharan Africa, where farmers and agricultural workers make up 60% of the workforce but where most cannot find crop coverage.
-
- Malawi's smallholder drought insurance: The insurance (linked to lending) was indexed on rainfall measures and covered groundnut and maize farmers who were members of NASFAM. The pilot began in 2005 and 1,710 policies sold for the 2006/2007 season.
-
- **Mali, Senegal, Kenya and Tanzania** have piloted various types of weather-indexed insurance since 2007.
-
- The AU's Department of Rural Economy and Agriculture, with technical assistance from the WFP, has initiated the African Risk Capacity (ARC) Project[1] to design and establish a pan-African risk pool. ARC is expected to operate as an Africa-owned, stand-alone financial entity that will provide African governments with timely, reliable and cost-effective contingency funding by pooling risk across the continent in the event of a severe drought (also see Box 6).

***Sources**: http://www.africa-re.com/WEATHERINSURANCE.pdf;*

http://documents.wfp.org/stellent/groups/public/documents/communications/wfp220176.pdf;http://www.preventionweb.net/files/25413_haritaquarterlyreportoctdec2011web.pdf

Specific risk reduction measures targeted at the economic and productive sectors are being implemented as follows:

- Contingency plans are in place for the agricultural sector in Madagascar, the poultry industry in Tanzania and for various institutions in Ghana.
- Specific public health actions have been taken to protect the tourism industry in Mauritius, although a systematic approach is not yet being taken across other economic sectors of the country.
- In the Seychelles, the tourism sector is also at the early stages of factoring DRR into its development plans.
- The protection of infrastructure for transport and communications, and ensuring the uninterrupted supply of energyduring floods are the focus of risk reduction measures for the economic sector in Mozambique.
- Cape Verde reports that all economic and productive sectors are implementing all of the above measures to reduce their vulnerability to disasters.

There were two noticeable gaps in the reports against this indicator, however. First, disaster-related insurance for economic and productive activities is not mentioned in any of the country reports, although other sources indicate that pilot projects have made promising advances and are being scaled up across the region (see Box 15).Second, although private sector investment is growing in most countries of the region, the reports do not provide details of interaction or cooperation with the private sector in DRR.

Given the consequences of global Climate change, index insurance might play a role in supporting adaptation strategies in developing countries. In nearly all the cases examined in a recent study[176], 'private insurers were not the first to offer index insurance. The public sector, multilateral agencies and NGOs appear to have taken the lead, in part because private insurers feel constrained by the high-basis risk associated with too few weather stations, the lack of awareness of insurance among clients, and the need for marketing intermediaries'.

It would appear that in order to be successful, index insurance will require considerable public and private investment, as well as willingness to measure success objectively and to adjust strategies accordingly.
The absence of information about these areas indicates that improved inter-institutional communication and coordination are needed to translate an as -yet nascent awareness of the importance of DRR for the economic and productive sectors into more substantial progress in terms of policy and practice.

INDICATOR 4:

Planning and management of human settlements incorporate disaster risk reduction elements, including enforcement of building codes.

Rationale: Rates of urbanisation in Sub-Saharan Africa are the highest in the world. Recent studies indicated that by

[176] The Weather Risk Management Facility, a joint undertaking of IFAD and WFP, reviewed recent experiences with index insurance programmes around the worldhttp://documents.wfp.org/stellent/groups/public/documents/communications/wfp220176.pdf

2050, more than half of the African population will be urban[177]. Already, almost two-thirds (62 per cent) of city dwellers in Sub-Saharan Africa live in slums and over half of the urban population in the poorest countries live below the poverty line. Many of the countries in North Africa are also urbanising at very rapid rates. By 2030, the Middle East North Africa(MENA) population is projected to reach 430 million, of which 280 million will be urban (UNFPA, 2007).For these reasons, the integration of DRR in the planning and management of human settlements is critical.

The pan-African average of reporting countries for this indicator is low (2.79). Substantial or comprehensive achievements (Levels 4 and 5) were reported by only32% of the region (Table 24). Low scores of 1 and 2 were registered by an additional 41%.UMA was the highest ranking REC at 4.00. Algeria was the only country to report substantive progress in the indicator. In reviewing the reports on this indicator, it is noteworthy that those reporting countries most exposed to earthquakes have set the best examples for building codes, reflecting a high degree of DRR integration in planning.

Table 24: **DRR-friendly settlements and building codes**

Pan-African Average (N=34)	2.79
Countries scoring 4 or 5	32%
Average per REC:	
CEN-SAD (N=14/23)	2.64
COMESA (N=13/19)	2.92
EAC (N=4/5)	3.00
ECCAS (N=2/10)	3.00
ECOWAS (N=13/15)	2.54
IGAD (N=3/7)	3.67
SADC (N=12/15)	2.75
UMA (N=2/5)	4.00

[177]State of the World's Cities, 08/09, UN-Habitat

Further achievements in this indicator were reported by Mozambique and Angola. Mozambique reported a large-scale resettlement project that resulted in the construction of 30,000 flood-resistant houses, a project based on a design that may be easily replicated elsewhere. In Angola, disaster management institutions now assess all new construction plans prior to the commencement of construction.

The majority of countries reported some progress in terms of commitment to integrating DRR measures into the planning and management of human settlements, but progress has been limited for a variety of reasons. Mozambique and Comoros highlighted the need to create a wider pool of skilled workers. In Côte d'Ivoire, the rapid growth of human settlements due to large numbers of returning Internally-Displaced Persons (IDPs)was reported as a major challenge.

Burkina Faso, Ghana, Guinea, Kenya and Mauritius also reported the lack of enforcement of legislation as a major impediment to further progress. This is a central issue for urban planning across the region, given that most urban growth is in unplanned or informal settlements where the accumulation of risk is greatest.

In UNISDR's 'City Resilience in Africa[178]: A 10 essentials pilot' report, Essential number 6 is 'Building Regulations and Land Use Planning'. In its assessment of African cities, this document reported that both the Governments of Kenya and Tanzania have established building codes and standards, but a lack of

[178]http://www.preventionweb.net/files/29935_cityresilienceinafricasansdate.pdf

enforcement of these codes and standards is a common occurrence.

INDICATOR 5:

Disaster risk reduction measures are integrated into post recovery and rehabilitation processes

Rationale: Post-disaster recovery and rehabilitation processes provide opportunities to apply appropriate norms and standards to reduce future disaster risks.

The pan-African average reported for this indicator is 3.03. Just over one-third (38%) of the reporting countries scored at the substantial or higher progress levels (Table 25) with UMA achieving the highest average among RECs at 3.5.

Table 25: **DRR in recovery and rehabilitation**

Pan-African Average (N=34)	3.03
Countries scoring 4 or 5	*38%*
Average per REC:	
CEN-SAD (N=14/23)	3.07
COMESA (N=13/19)	2.92
EAC (N=4/5)	2.50
ECCAS (N=2/10)	2.00
ECOWAS (N=13/15)	3.08
IGAD (N=3/7)	2.67
SADC (N=12/15)	3.25
UMA (N=2/5)	3.50

Mauritius reported that emergency situations are systematically used to apply DRR measures, while Mozambique and Madagascar highlighted the use of disaster-resilient materials and techniques in their reconstruction processes. In Sierra Leone, on-going reconstruction of public health facilities and agricultural rehabilitation incorporate DRR considerations.

Angola, Comoros, Côte d'Ivoire, Swaziland and Togo reported some progress in terms of the integration of DRR measures into post-recovery and rehabilitation processes, albeit with limited regional coverage or with partial application.

According to the majority of country reports, significantly greater progress would be possible if more funding or a wider range of financial instruments were available, including the possibility of credit and insurance services for affected communities.

Angola, Ghana, Comoros, Mozambique, Swaziland and Tanzania reported that, even when funding is made available for reconstruction, the limited technical capabilities of constructors and communities along with the use of poor-quality materials can result in construction of vulnerable structures and settlements. Furthermore, the pressure to rebuild quickly can often prevail over compliance with building standards, as reported by Madagascar. The complexity of engaging communities in resettlement processes in safer locations was also reported by Ghana and Seychelles.

Despite the fact that NGOs usually contribute to recovery and reconstruction processes, the reports do not refer to any partnerships or collaborative efforts. Given the growing commitment to DRR by humanitarian donors and international aid agencies, significant potential for future collaboration in these efforts might exist.

GFDRR has created a specific project category entitled 'Track III: DRR in recovery'. Through this modality, at least six countries have been funded: Benin, Djibouti, , Kenya, Mozambique,

Nigeria and Togo. Since 2011, nearly US$2 million has been invested in these countries towards efforts such as needs assessments and DRR-friendly safe schools.

INDICATOR 6:

Procedures are in place to assess the disaster risk impacts of major development projects, especially infrastructure.

Rationale: When development does not take into account existing hazards, it is likely to generate additional exposure to disaster risk[179].

The pan-African average for this indicator was low at 2.88 (Table 26).Reporting countries were equally divided: one-third scored themselves at Levels 4 and 5 while another third scored themselves at 1 and 2.UMA was the highest-ranking REC with a score of 3.5.

Table 26: **DRR in development and infrastructure projects**

Pan-African Average (N=34)	**2.88**
Countries scoring 4 or 5	35%
Average per REC:	
CEN-SAD (N=14/23)	2.57
COMESA (N=13/19)	2.92
EAC (N=4/5)	3.25
ECCAS (N=2/10)	2.50
ECOWAS (N=13/15)	2.69
IGAD (N=3/7)	3.00
SADC (N=12/15)	3.08
UMA (N=2/5)	3.50

The majority of reporting countries in Africa have procedures in place to assess the impact of development plans and projects. However, in most countries, risk assessment procedures focus on the potential environmental impact of projects, rather than on their impact on the broader factors that trigger disaster risk. Even then, almost half of the reporting countries identified challenges regarding the systematic application of such risk assessment procedures and legislation.

Further guidance on the use of this indicator and the scope of impact assessments is needed to facilitate future monitoring of progress in the countries of Africa.

5.2.5 Preparedness for effective response and recovery

Africa Regional Strategy

Objective 6:
Integrate disaster risk reduction into emergency response management.

In line with the HFA Priority 5:

INDICATOR 1:

Strong policy, technical and institutional capacities and mechanisms for disaster risk management with a DRR perspective are in place.

Rationale: Disaster response and recovery provide opportunities to address the causal factors of risk when disaster management policies and plans are informed by knowledge of disaster risk and include measures to reduce this risk.

The preponderance of high scores against this indicator (59% scored Level 4 or 5) suggests that the institutions responsible for disaster risk management in the majority of reporting countries in Africa have confidence in their capacity to integrate risk reduction

[179] Disaster Risk Reduction: A Development Concern, DFID 2004.

measures into their operations. Guinea, Senegal and Gambia categorised their progress as comprehensive. The highest-ranking countries are found in SADC, with an average of 3.58 (Table 27).

Table 27: **Policy and institutional preparedness**

Pan-African Average (N=34)	**3.35**
Countries scoring 4 or 5	*59%*
Average per REC:	
CEN-SAD (N=14/23)	3.14
COMESA (N=13/19)	3.54
EAC (N=4/5)	3.50
ECCAS (N=2/10)	3.50
ECOWAS (N=13/15)	3.46
IGAD (N=3/7)	3.00
SADC (N=12/15)	3.58
UMA (N=2/5)	2.00

Although significant advances have been made during this period, the need for additional capacity was stated by almost all the reporting countries, particularly in terms of greater financial resources and improved technical skills.

Furthermore, according to the reports of Comoros, Ghana, Malawi and Mauritius, improved legislative and policy frameworks are required in these countries to fully establish DRR practices within disaster management institutions and operations.

INDICATOR 2:

Disaster preparedness plans and contingency plans are in place at all administrative levels, and regular training drills and rehearsals are held to test and develop disaster response programmes.

Rationale: Systematic drills and evaluations enable all actors to assess and subsequently improve their preparedness capacities.

This indicator received the highest scores under this priority area. The pan-African average was 3.38 and ECOWAS was the highest ranking REC with an average of 3.77. The majority of reporting countries scored substantial or comprehensive progress (Table 28).

Table 28: **Preparedness and contingency plans**

Pan-African Average (N=34)	**3.38**
Countries scoring 4 or 5	*59%*
Average per REC:	
CEN-SAD (N=14/23)	3.43
COMESA (N=13/19)	3.08
EAC (N=4/5)	2.75
ECCAS (N=2/10)	3.00
ECOWAS (N=13/15)	3.77
IGAD (N=3/7)	3.00
SADC (N=12/15)	3.42
UMA (N=2/5)	2.50

Nearly all reporting countries in Africa have a contingency plan or emergency plan in place, although the scope and resourcing of these vary considerably. In Cape Verde, Mauritius, Mozambique and Madagascar, contingency plans encompass all administrative levels, thereby facilitating effective responses for disasters of all scales. In Swaziland, national action plans produced by governmental authorities are complemented by NGOs working on preparedness plans in rural areas.

Simulation exercises to test contingency plans have been carried out in Mauritius, Seychelles, Togo, Kenya, Ghana, Guinea, Cape Verde and Burkina Faso, and in most cases these exercises are undertaken routinely. However, the difficulty in mobilising relevant stakeholders to dedicate the time and resources necessary to run these simulation exercises was a commonly-cited challenge.

Several countries identified lessons and gaps that have emerged during the testing process. Mozambique reported the lack of comprehensive coverage of the radio communications system in that country. Mauritius reported the need for clarity with regard to evacuation procedures. Malawi emphasised the need to incorporate lessons learned from such events into improving its plans.

A comparison of the current situation with that of the previous reporting period[180] indicates that a large number of countries in the region have prioritised investment in disaster preparedness, resulting in demonstrable progress.

A study[181] was commissioned by UNISDR in 2012 to assess contingency planning in the Horn of Africa sub-region, specific to drought. The report was able to capture many misunderstandings and weaknesses extant in respect of contingency planning.

Also in 2012, the IFRC published guidelines on contingency planning that are helpful and applicable in Africa (see link below[182]).

INDICATOR 3:

Financial reserves and contingency mechanisms are in place to support effective response and recovery when required.

Rationale: Ensuring the availability of funds for emergency response and recovery, and effective mechanisms for their rapid disbursal should form part of a country's preparedness strategy

Just over one-third of reporting countries claimed to have made substantial or comprehensive progress in this indicator (Table 29). The pan-African average was 2.91 and the highest scoring REC was UMA at 3.5.

Table 29: **Financial reserves**

Pan-African Average (N=34)	**2.91**
Countries scoring 4 or 5	35%
Average per REC:	
CEN-SAD (N=14/23)	2.71
COMESA (N=13/19)	2.77
EAC (N=4/5)	2.50
ECCAS (N=2/10)	1.50
ECOWAS (N=13/15)	2.85
IGAD (N=3/7)	2.67
SADC (N=12/15)	3.25
UMA (N=2/5)	3.50

Funds are generally held at the national level and administered by the institution responsible for disaster management or DRR. In South Africa, all organs of state are required to budget for disaster response and recovery; national funds are used only as a last resort. Both Ghana and Mozambique commented that funding should be held at lower administrative levels in order to ensure its timely and effective disbursement for relief and recovery activities.

However, most countries reported that their emergency funds were insufficient, although some reported weaknesses in the mechanisms for disbursal. Dependence on the international community for funding was registered in several cases, even for funding first-phase responses.

Other financial contingency mechanisms, such as risk insurance, may exist in some countries of the region but

[180] The Africa Status Report 2008 notes that few contingency plans exist, and none have been tested by simulations.
[181] Drought Contingency Plans and Planning in the Greater Horn of Africa: A desktop review of the effectiveness of drought contingency plans and planning in Kenya, Uganda and Ethiopia, UNISDR, 2012. http://www.preventionweb.net/files/26436_droughtcontingenclow.pdf
[182] http://www.ifrc.org/PageFiles/40825/1220900-CPG%202012-EN-LR.pdf

these are not reported. Risk insurance and regional funding mechanisms are discussed in greater detail in the preceding sections above.

INDICATOR 4:

Procedures are in place to exchange relevant information during hazard events and disasters, and to undertake post-event reviews.

Rationale: Establishing and testing procedures to exchange information between multiple stakeholders during hazard events are foundational elements of disaster preparedness.

Substantial or comprehensive achievement of progress (Levels 4 and 5) was reported by less than half the reporting countries (44%). In a minority of countries, procedures for information exchange during hazard events are yet to be established (Table 30). The pan-African average was 2.94 and the highest average reached by a REC was ECOWAS at 3.15.

Table 30: **Information exchange during disasters and evaluate response efforts**

Pan-African Average (N=34)	**2.94**
Countries scoring 4 or 5	44%
Average per REC:	
CEN-SAD (N=14/23)	2.93
COMESA (N=13/19)	3.00
EAC (N=4/5)	3.00
ECCAS (N=2/10)	2.50
ECOWAS (N=13/15)	3.15
IGAD (N=3/7)	2.67
SADC (N=12/15)	2.83
UMA (N=2/5)	3.00

A variety of approaches are taken to information management, depending on the availability of resources and the specific challenges of each context. In Mauritius and Mozambique, the national meteorological services play a key role in generating information, which is then disseminated via national media or furnished to regional and district-level coordination centres. In Kenya, a national operations centre coordinates information. South Africa establishes a joint operating committee during hazard events. In Togo, the UN cluster approach is used to facilitate participation under sectoral leadership.

Ghana has a website that makes information available to global actors, and both Ghana and Seychelles have mechanisms in place that permit information to be exchanged between national and regional levels as well as with affected areas. In most countries, however, concerns were reported with the transmission of communications generated at the national level, particularly in terms of the relay of early warning messages.

Following hazard events, investment by states of time and resources to systematically evaluate preparedness capacities and mechanisms can lead to a substantial increase in disaster preparedness.

Procedures to undertake post-event reviews were reported to be in place in Madagascar, Malawi and Mauritius so that lessons might be integrated into future plans and simulation exercises. South Africa stressed the value of immediate post-disaster debriefings as windows of opportunity to promote DRR strategies.

The majority of country reports did not indicate whether National Platforms were being used to exchange information during hazard events or for post-event learning processes, although cooperation through this forum was reported by Madagascar. There would

appear to be much greater potential for collaboration between the multiple stakeholders of National Platforms in order to improve knowledge management both during and after hazards and disasters.

A good example of a thorough evaluation of what does and does not work well was seen in the studies conducted by the Governments of Kenya and Uganda in 2008, with support from UNISDR and SIDA. The studies were both entitled 'Review and Analysis of existing drought risk reduction policies and programmes[183].

In Kenya drought management related policies have been developed within the main sectors of agriculture, livestock, water, environment, land and infrastructure development. These policies led to the creation of a fully-fledged ministry of Northern Kenya and other arid lands to specifically address the cyclic drought hazard. A drought management policy was drafted, adopted and the National Drought Management Authority (NDMA) established.

In Uganda, a drought management policy has been developed. Uganda has put in place the national disaster management policy under the Ministry of Relief, Disaster Management and Refugees. The policy places great emphasis on drought risk reduction in the country.

5.3 Summary of Key Findings and Approaches

5.3.1DRR Approaches

As part of HFA reporting process, countries were asked to report on their use of good-practice and cross cutting approaches in DRR. Called 'Drivers of Progress', UNISDR asked reporting countries to score their reliance (low-1, partial-2 or persistent-3) on: the multi-hazard approach, gender, capacity building, human security/social equity as well as partnerships with civil society and the private sector.
Overall, reporting countries felt confident in their use of good practice approaches (average of 2.77across all RECs. The greatest number of scores for persistent reliance was for reliance on civil society (21 out of 34 countries) and the lowest was for use of the all-hazard approach (13 countries). ECOWAS led the RECs in application of the multi-hazard approach and reliance on civil society. ECCAS and IGAD led on gender; IGAD on capacity building; and UMA led on security and equity (Table 31).

[183] **Kenya:** http://www.preventionweb.net/files/8161_KenyaDroughtRiskReductionPolicyAnalyticalReport.pdfa:
Uganda: http://www.preventionweb.net/files/8160_UgandaDroughtRiskReductionPolicyAnalyticalReport.pdf

Table 31: **Reliance on good practice cross-cutting DRR approaches**

	Multi-hazard	Gender	Capacity Building	Security & Equity	Civil Society
Pan-African Average (N=34)	**2.29**	**2.29**	**2.47**	**2.26**	**2.59**
Countries scoring 3 (out of 3)	13	14	17	14	21
Average per REC:					
CEN-SAD (N=14/23)	2.50	2.29	2.50	2.36	2.71
COMESA (N=13/19)	2.00	2.15	2.38	2.08	2.46
EAC (N=4/5)	2.25	**2.50**	2.25	1.75	2.25
ECCAS (N=2/10)	2.50	**2.50**	2.50	2.00	2.50
ECOWAS (N=13/15)	**2.62**	2.46	2.46	2.31	**2.77**
IGAD (N=3/7)	2.00	2.33	**2.67**	2.00	2.67
SADC (N=12/15)	2.08	2.25	2.50	2.33	2.58
UMA (N=2/5)	2.50	2.00	2.50	**3.00**	2.50

5.3.2 ARSDRR Objectives and HFA Priorities: strengths and constraints

Substantial progress has been made in Africa since the HFA was established in 2005. In less than 10 years, Africa can boast the formulation of at least eight DRR-specific policies, 40 National Platforms and 10 universities with established DRR research and teaching programmes. The existence of the ARSDRR and its PoA is itself testimony to the political will to develop a coherent regional framework for DRR in Africa.

A review of the HFA monitoring self-assessments of reporting countries since 2005 against the ARSDRR Objectives and the HFA Priorities reveals clear strengths and weaknesses in the region's DRR portfolio. Listed in order of greatest progress across the region are the following highlights:

- ARSDRRObj.1/HFA Priority 1: Legal and institutional frameworks
- ARSDRRObj.6/HFA Priority 5: Preparedness
- ARSDRRObj.2/HFA Priority 2: Risk Identification

The priority scoring the lowest by some margin is ARSDRRObj.3/6-HFA Priority 3-Knowledge Management. The second lowest is HFA Priority 4- Reducing risk factors.

This combination of advances, even in fits and starts, is to be expected and may follow closely donor investment patterns. Chronologically, framing DRR in policies and institutions (Priority 1) is a fundamental first step that makes the other priorities feasible. Preparedness and risk identification efforts (Priorities 5 and 2) are relatively concrete efforts with tangible deliverables that can be measured or checked off , even if not always possessing the quality or resulting in the intended impact (i.e., community empowerment). Reducing risk factors (HFA Priority 4) and changing cultures (Priority 3) arguably present the greatest challenges and require the longest sustained investment.

Because Africa is so geographically vast and varied, DRR progress has not been made everywhere or at the same pace. The combined scores of all 22 HFA indicators across all reporting countries for each REC highlighted the greatest DRR progress to be within the EAC and IGAD RECs (3.13 and 3.11 respectively). ECCAS and CEN-SAD countries (averages of 2.62 and 2.94 respectively) appear to be in need of the greatest support towards substantial progress (see Table 32).

Table 32also demonstrates the ranking of HFA Priorities by REC. While HFA Priority 3 (ARSDRR Objectives 3 and 4) depict the lowest progress across the region as a whole, ECCAS and UMA appear to have started their DRR journeys with a focus on that indicator.

Consequently, they might have many experiences to share with the other RECs. The same holds true for CEN-SAD and ECOWAS on HFA Priority 4, reducing risk factors .Figure 19 portrays the mean scores per REC per ARSDRR/HFA Priority.

Two of the 22 HFA indicators surface as having the most progress made against them, (both with an average score of 3.38): Legal/institutional frameworks (HFA Priority 1.1) and Contingency Plans (HFA Priority5.2, excepting countries in EAC). Following closely behind by high average scores is Public Awareness (HFA Priority 3.4) and Capacity building mechanisms (HFA Priority 5.1), each with a score of 3.35.

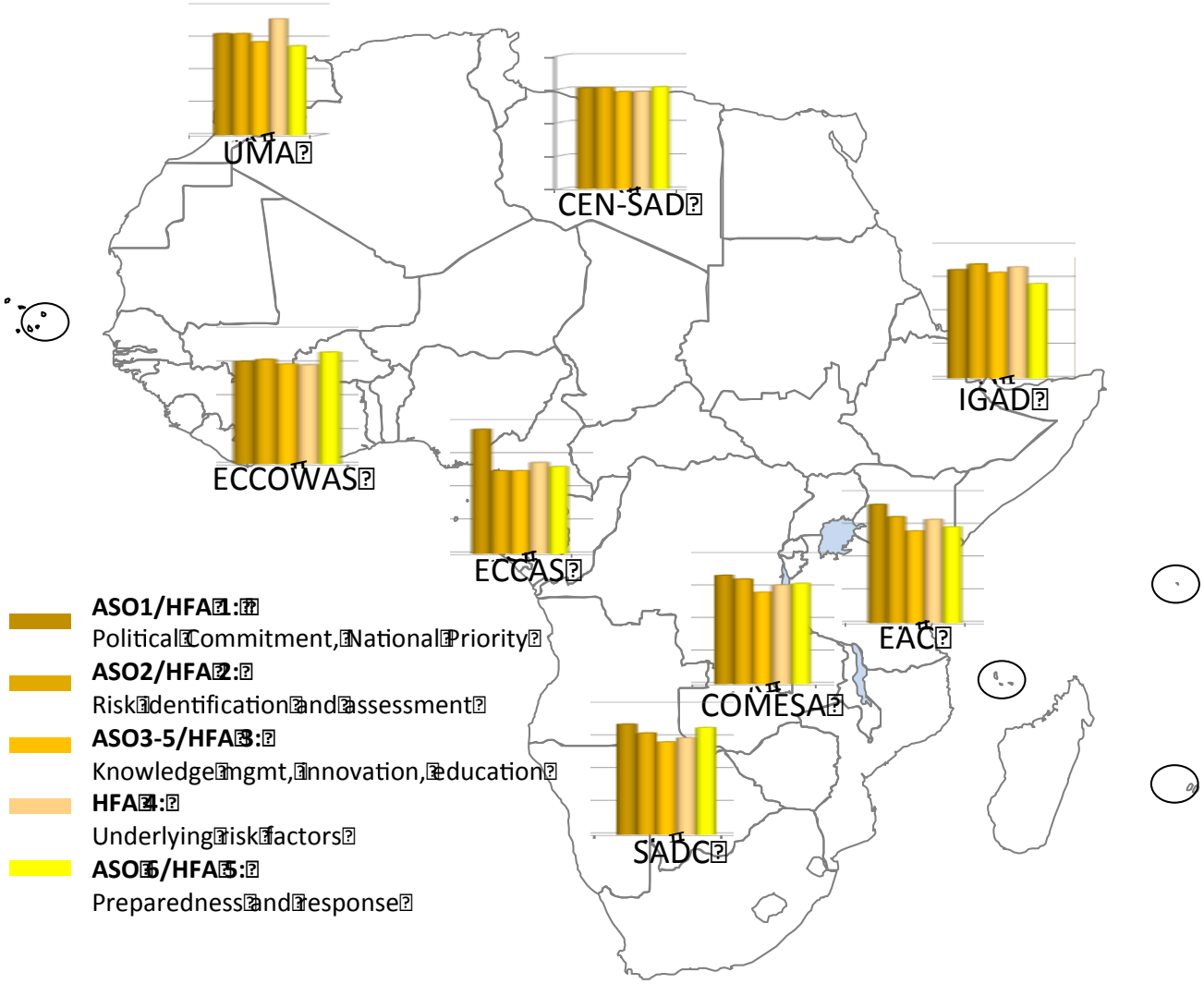
Although progress on all Priority areas has advanced over time, constraints remain roughly similar. Reporting countries identified the availability of financial resources and sustained political will as the greatest constraints that stand in the way of accelerated and more durable DRR progress in Africa today. The weakest progress overall was reported for research tools in multi-risk assessment (HFA Priority 3.3, score: 2.44) and DRR in public education (HFA Priority 3.2, score 2.76).

Conclusions and recommendations based on the key findings of this chapter and others are found in Chapter

Table 32: Ranking of progress by REC

Africa Regional Strategy	Obj. 1 and 5	Obj. 2	Obj. 3 and 4	NA	Obj. 6
HFA Priority	HFA 1	HFA 2	HFA 3	HFA 4	HFA 5
Rank across objectives from 1 (highest scoring) to 5 (lowest)	1 (Pan-Africa)	3 (Pan-Africa)	5 (Pan-Africa)	4 (Pan-Africa)	2 (Pan-Africa)
Rankings and overall averages per REC (compared to pan-African avg. 3.06)					
CEN-SAD (Avg: 2.98)	2	4	3	1	5
COMESA (Avg: 3.10)	2	5	4	3	1
EAC (Avg. 3.16)	1	4	2	3	5
ECCAS (Avg.2.82)	3	3	1	2	4
ECOWAS (Avg:3.06)	2	3	4	1	5
IGAD (Avg. 3.21)	3	1	4	2	5
SADC (Avg: 3.09)	3	5	4	2	1
UMA (Avg. 3.14)	2	3	1	4	5

Figure 16: Africa Regional Strategy Objective / HFA Priority Scores, averaged across reporting countries in each REC



CHAPTER 6: DRR PROGRESS AT THE THEMATIC LEVEL

6.1.1 Introduction to Drought in Africa

As we have seen, Africa is highly vulnerable to a wide range of disasters resulting natural hazards such as drought, earthquakes, epidemics, floods and storms, as a consequence of the diversity of climatological, geological, hydrological and topographical conditions across the continent.

Drought is a recurring feature of climate, especially across Sub-Saharan Africa. In Southern Africa, drought has been linked to extreme manifestations of El Niño-Southern Oscillation (ENSO) phenomenon. Human-induced contributory factors, such as deforestation and poor resource management and related desertification, result in a reduction in rainfall and affect soil's ability to hold moisture.

Droughts differ from other natural hazards in that they are slow-onset phenomena, which affect wide spatial areas for periods of months or years (Box 16). This can result in a larger proportion of populations being affected by drought than by other disasters. In Africa, while droughts on average account for less than 15% of all disaster occurrences (of natural origin), they account for roughly 80% of all people affected.

Droughts in Africa have severe environmental, social and economic impacts. They exacerbate environmental degradation through deforestation, livestock overgrazing, soil erosion, wild fires, loss of biodiversity and over-extraction of groundwater resources.

The reduced availability of potable water during droughts also tends to affect hygiene practices as well as impact negatively on human health, increasing the prevalence of diseases like cholera. It also places a greater burden on women and children who collect water for daily household consumption.

Drought-induced food shortages adversely impact the nutritional status of affected populations; and when specific, adverse political or market conditions exist, drought can lead to famine. Nearly all climate change projections signal greater chances of severe drought in Africa. The impact of climate change is discussed in Chapter 2.

UN agencies estimated that over 16 million people in Mali, Sudan, Niger, Burkina Faso, Senegal, Gambia and Chad were affected by drought in 2012 alone. Drought caused a 26% reduction in cereal production in the Sahel when compared to the previous year. Chad and Gambia both experienced 50% production decreases and other countries suffered serious localised deficits.

Box 16: General characteristics of Drought

Drought induced disasters, particularly in Africa, are a major threat among the natural hazards that adversely affect the livelihood and socio-economic development of urban and rural populations. They differ from other hazard types such as earthquakes, floods and tsunamis in substantial and important ways.

Unlike events that occur along generally well-defined geological or geographical features, such as fault lines, river valleys or coastlines, drought events do not strictly correlate to these types of geographic features and can occur anywhere.

Unlike the sudden onset of other types of natural hazards, drought develops slowly over an extended period of time and usually occurs after a season or more of insufficient precipitation. Defining what constitutes 'insufficient' rainfall depends on local climate and can result in a larger proportion of the population being affected by drought than by other disasters.

In 2009, UNISDR reported that drought ultimately represents a condition of water shortage relative to demand for an activity, group or environmental sector. What is considered to be an insufficient water supply is highly location-specific. For example, a shortfall of precipitation can adversely affect rain-fed agriculture, but not where there exists a reservoir system with sufficient water storage capacity.

Although the definitions and causes of drought often vary, there is consensus that:

- Meteorological drought results from a prolonged period of below-average rainfall, which creates a shortage of available water
- Agricultural drought occurs when there is an insufficient water supply to support average faming activity due to deficits of water in the soil, reduced ground water and the lack of availability of water in reservoirs.
- Hydrological drought occurs when the lack of precipitation fails to recharge the hydrological system resulting in surface and subsurface water reserves below an established statistical average. The surface and subsurface deficiencies will not be immediately apparent.
- Socio-economic drought occurs when the demand for an economic good (such as water, hydro-electric power, livestock forage) exceeds supply as a result of a weather-related shortfall in water supply.

Using the same framework to analyse vulnerability and risk to droughts as that used for other natural hazards is difficult because of insufficient or lacking data. Mortality rates are used to correlate the severity and impact of natural hazards. In the case of drought, few droughts lead directly to mortality; moreover, mortality rates are often excluded from multiple-hazard and risk identification data. High impact, indirectly related to drought, might occur from 1) political crisis and civil conflict that prevents aid from reaching drought-affected populations or 2) disruption of agriculture production or diminished food supplies that become depleted long after a meteorological drought has occurred and before the next harvest. Available data do not provide information on indirect factors and mortality rates directly related to drought insufficiently correlate the true impact and loss to life, livelihood, and socio-economic development.

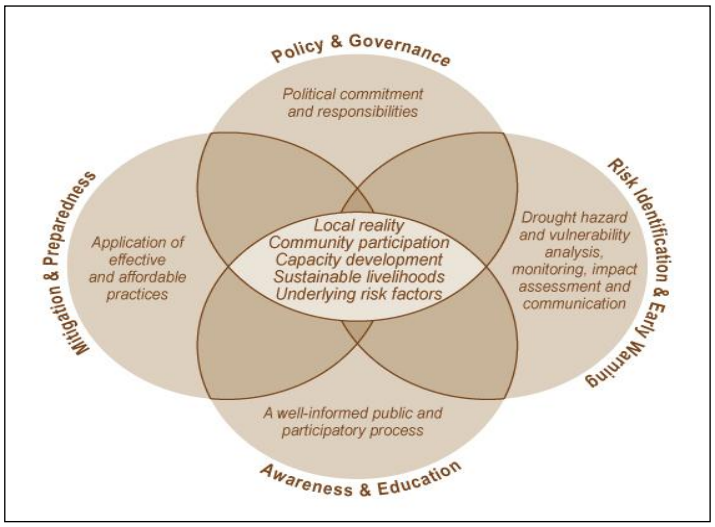


Figure 17: Elements of drought risk reduction framework and practice
Source: National Drought Mitigation Centre, University of Nebraska – Lincoln, USA

6.1.2 Advances in drought risk reduction, as related to the HFA priorities

Informed by the five HFA Priorities, international meetings, on-going discussions and identification of information and best practices, UNISDR developed a framework[184] for the implementation of drought risk reduction on the African continent. Within the elements outlined in the Drought Risk Reduction Framework and Practices (UNISDR, 2009), this chapter reviews current measures undertaken for drought risk reduction and drought risk management across the continent (Figure 29).

HFA PRIORITY 1: POLICY AND INSTITUTIONAL FRAMEWORKS

Individuals and institutions in political power must be made aware of the danger drought poses and the hardship it creates for people whose livelihoods are vulnerable to its impacts. They must commit to reducing human suffering and environmental degradation. To accomplish this, sustainable policies and governance as well as national resilience work in harmony with community-based policies and practices related to agriculture, water, food security and hazard planning need to be in place.

This priority should be guided by principles that include policy commitment, community involvement and capacity building; clear policy guidelines for mitigation and preparedness; drought monitoring; mechanisms to ensure policy development, implementation and adherence; and long-term investment in measures to reduce the effects of drought.

EXAMPLES OF HFA PRIORITY 1 ADVANCES

The Government of **Kenya** recognises that drought management requires a different mind-set and a different set of skills than those applied to other hazard responses, in particular by virtue of the nature and characteristics of drought. In fact, drought early warning and response has far more in common with sustainable development than with disaster response.

In this context, Kenya has established the National Drought Management Authority (NDMA) and National Drought and Disaster Contingency Fund

[184]Drought Risk Reduction Framework and Practices: Contributing to the Implementation of the Hyogo Framework for Action. UNISDR 2007.

(NDDCF)[185]. NDMA is placed under the general direction of the minister responsible for drought management; currently, the Minister of State for Development of Northern Kenya and other Arid Lands.

NDMA's goal is to provide leadership for investment in long-term action to end drought emergencies. NDDCF has two components: one that disburses funds for early response to drought (i.e., well before signs of crisis are apparent) and a second that disburses funds for quick action in the wake of rapid-onset disasters.

South Africa has invested a great deal of time and effort into developing a cohesive national drought policy[186]. These efforts were accelerated by the development of the National Consultative Forum on Drought in the early 1990s, which brought more stakeholders to the planning table and enabled more sectors to be included in drought planning efforts.

These efforts resulted in new drought policies that sought to encourage risk management, assist farmers financially, protect natural resources, promote the best use of resources for individual farmers and help farmers maintain a nucleus-breeding herd during a drought. With this policy, farmers must adopt specific resource conservation and long-term sustainability measures, such as adherence to established grazing capacities in order to be eligible for financial aid. An agricultural risk insurance bill was also developed in 2002 that sought to supplement the incomes of agricultural producers' most susceptible to crop and livestock losses from natural disasters.

The country's primary challenge now is the maintenance of a policy balance between encouraging a risk management approach for large agricultural enterprises and providing a safety net for the resource-limited sectors of the population.

When the Government of **Namibia** introduced a package of short-term drought relief measures in May 1995, it simultaneously established a task force to draw up a national emergency and long-term drought management policy. This was done by virtue of the fact that Namibia is an arid country where dry years are the norm. Declaring drought events too frequently can be expensive for a government; it can create dependency among aid recipients; and it can promote resource degradation through inappropriate assistance.

The task force convened several consultations post- 1996, until the Government's endorsement of a national drought policy in 2005. Namibia's drought policy[187] is geared toward developing an efficient, equitable and sustainable approach to drought management. The policy aims to shift responsibility for managing drought risk from government to the individual farmer, with financial assistance and food security interventions only being considered in

[185]Tilstone, Vanessa. *An innovative approach to drought management in Kenya: The establishment of the National Drought Management Authority and National Drought and Disaster Contingency Fund.* Disaster Reduction in Africa UNISDR Informs, UNISDR,2012.

[186] National Drought Policy; Wilhite et al, Drought and Water Crises: Taylor and Francis, 2005.

[187]Republic of Namibia, National Drought Policy and Strategy, 1997 as reported in 2nd African Drought Risk and Development Forum Report, Nairobi, 18-18, October, 2006.

the event of an extreme drought or 'disaster' being declared.

The thrust of Namibia's drought policy is to move away from regular financial assistance for large numbers of private tenure and communal-tenure farmers, to measures that support the on-farm management of risk. The Government's involvement with drought will move beyond an exclusive focus on emergency drought programs to a broader, longer-term perspective.

Regarding adequate resources (HFA Priority 1.3), UNISDR and the World Bank reported in 2008 that economic impacts caused by drought were as large as 8-9% of GDP for Zimbabwe and 4-6% of GDP for Nigeria (UNISDR/World Bank, 2008). A 2009 World Bank study of Malawi, using an economy-wide general equilibrium model, found that droughts and floods reduce total GDP in that country by an average of 1.7% per year and that GDP declines by at least 9% during a severe 1-in-20 year drought, thereby establishing a strong case for investment in risk reduction.

HFA PRIORITY 2: RISK IDENTIFICATION AND KNOWLEDGE

A starting point for reducing drought risk and promoting a culture of safety and resilience is to gain knowledge and understanding of drought occurrence, its potential effects and impacts and the related vulnerabilities of at risk people. . Effective communication of these dangers to at risk and affected populations forms the basis for developing measures to reduce the effect of drought impact while contributing to drought-resilient societies.

This Priority should be guided by principles that include: understanding both drought and vulnerability related in space and time; the role of climate change; the value of impact assessment; and the importance of monitoring and EWS relative to drought.

Examples of advances under HFA Priority 2 are as follows:
A drought early warning system (DEWS) was developed in Uganda. This project, managed by ACTED with funding from ECHO, started as a pilot project in 2008, which was inspired by the Kenyan Drought EWS model. The data collection for this pilot EWS was done by Community Animal Health Workers, while the data analysis and production of Drought Bulletins was done by ACTED.

In 2009, ACTED decided to build on this experience and expand the project to the whole region of Karamoja, taking the opportunity to re-design the project and to adapt it to the context of Karamoja and to the availability of resources at the government and community levels. This work was undertaken in close collaboration with local and national government representatives, local and international organisations, UN agencies and local communities. All of these players reached a consensus on the list of indicators to be used as well as on the modus operandi of the system for data collection, analysis, dissemination and how it should be integrated within the local government. The local government expressed the desire to own this project and receive the necessary technical support from ACTED for its implementation.

A series of workshops wasalso held to determine the core principles of DEWS. DEWS consists of collecting data on a

monthly basis from the communities, district offices and the Department of Meteorology, analysing it at district level in collaboration with district heads of departments, producing a monthly drought bulletin and disseminating key messages to communities and development partners. All steps of this system are fully integrated within the structure of the local government. The list of indicators covers six main sectors (livestock, crop, water, nutrition, livelihood, security) and compiles information on the level of vulnerability of the population as well as the risk of drought.

The Ugandan DEWS has made some promising innovations:

- Dissemination of warnings and recommendations to affected communities using radio spot messages and SMSs: district heads of departments write these messages after the analysis of data for the production of the Drought Bulletin. They make recommendations to communities, including how to prevent livestock diseases and what to do if symptoms of livestock disease appear; post-harvest handling practices; usage of borehole water for human health; and how to provide adequate water to animals in times of dry weather.

- A wide community awareness component that incorporates performed drama skits and songs :every month, drama groups raise communities' awareness of the importance of listening to the warning messages on the radio and of following the recommendations given by district authorities in order to avoid/reduce loss of lives and assets;

- Support of the Department of Meteorology in issuing monthly weather forecasts: since September 2011, the Department of Meteorology has begun to issue monthly weather forecasts for each district of Karamoja. The Department of Meteorology has improved the capacity of DEWS to predict more accurately the risk of drought and possible impacts of weather on the population. This has been achieved after collecting historical weather data from many districts of Uganda and establishing models that are correlated with sea surface temperature readings; and

- The definition of an Early Warning Phase Classification Methodology/ Framework in collaboration with the Integrated Food Security Phase Classification (IPC).

Many Eastern African countries have developed drought EWS capable of integrating information from various sources and providing warnings of the imminent onset of drought. Regional centres such as ICPAC and the Drought Monitoring Centre (located in Harare), supported by WMO, RECs and the OSS, provide current data, develop climate outlooks and issue warnings to national meteorological and hydrological services.

A wide range of climate and drought-related products have been produced by ICPAC to identify cumulative rainfall deviations from the mean average and to illustrate the food security outlook for countries. ICPAC also organises regional climate outlook forums that bring together national, regional and international experts to review conditions and develop climate outlooks. User representatives from

different sectors often participate in these forums as well.

In some developing countries, an outcome of drought is the risk of famine or extreme food insecurity. EWS for food security in many African countries make use of information from the major international food security monitoring systems. The FAO Global Information and Early Warning System on Food and Agriculture (GIEWS) is the most globally complete system, but other systems, including the USAID-sponsored FEWS NET is focused primarily on Africa.

Networks should also continue to be established to support the sharing of basic climate and early warning across borders and regions. For example, the AGRHYMET Centre[188] (a specialised centre of the Permanent Interstate Committee for Drought Control in the Sahel) provides agro-meteorological monitoring services across nine countries in western Africa. In this capacity, the centre monitors a range of conditions such as rainfall amounts and surface water supplies, start of the growing season, crop water requirements, crop pests and diseases, and vegetation stress.

The AGRHYMET Centre is also a member of a consortium, along with ACMAD and the Niger River Basin Authority, which issues forecasts two to three months in advance to ECOWAS member countries for the coming July to September cumulative rainfall period. This type of collaboration and information sharing is essential to creating robust, international drought EWS.

HFA PRIORITY 3: KNOWLEDGE MANAGEMENT AND EDUCATION

The key to protecting people, property and livelihoods from natural hazards and their impacts is to raise awareness and encourage educational initiatives. Compiling, collecting, sharing and using the wealth of knowledge and information available on DRR enables people to develop a culture of prevention and resilience based on informed decision making.

Guiding principles for drought awareness and knowledge management activities include ensuring that people are well informed; that dialogues and networks foster consistent knowledge collection and dissemination and that public awareness programs and education and training is available at all levels of society.

As noted, some countries reported that a national disaster information system can be a major challenge, as while information is available, it is often scattered throughout different sectors and institutions. Nevertheless, some countries are in the process of developing centralized databases to serve as repositories for all information. Others are considering use of UNISDR supported DesInventar system. The data from national HFA reports confirmed that there is also a need for greater emphasis on DRR research undertaken on risk and vulnerability as well as on poverty and cost-benefit analysis, as currently, information on such research by African institutions remains limited.

[188] www.agrhymet.ne

EXAMPLES OF HFAPRIORITY 3 ADVANCES

Knowledge exchange:

The Africa–Asia Drought Risk Management Peer Assistance Project[189] seeks to facilitate the sharing of knowledge and technical cooperation among drought-prone countries in Africa and Asia and to promote best practices in drought risk management for development in the two regions. In order to establish a baseline to guide this activity, UNDP's Dry lands Development Centre (UNDP DDC) undertook a stocktaking exercise between March and June 2011 on drought impacts, causes and trends as well as examined solutions in Africa and Asia. The specific topics that emerged as areas of opportunity for the Africa-Asia Drought Risk Management Peer Assistance Network (AADP) to contribute to include the following: raising awareness about the value of indigenous knowledge; promoting a multi-faceted approach for dealing with drivers of drought risk; investigating the integration into EWS of non-climatic drivers of drought; and keeping pace with emerging issues and trends in drought risk reduction, such as urban drought.

UNISDR organised specialised training in Kenya on the DesInventar database, a knowledge management tool that can be applied to droughts. The training sought to anchor the country's disaster management information in such a way that the information could be made available to government and all interested stakeholders for planning purposes to prevent or reduce disaster risks, for disaster monitoring, for early warning, preparedness and for response planning.

The Southern Africa Drought Technology Network (SADNET)[190] brings together development practitioners involved in agriculture in order to promote indigenous knowledge systems and drought mitigation activities in Southern Africa. The NGO Southern Alliance for Indigenous Resources (SAFIRE) adopted SADNET[191] as one of its strategies to address livelihood and food security issues for communities in drought-prone areas of Zimbabwe, Zambia, Malawi and Mozambique, with emphasis on information sharing. The project is based on the premise that 'knowledge is power' and that vulnerable farmers are in a better position to make informed decisions with regard to their agricultural production and drought mitigation activities if they have a ready supply of relevant and up-to-date information.

SADNET also facilitates information sharing among small-scale farmers, NGOs and community-based organisations on matters of rural food security, agricultural research and extension, as well as provides information on the role of agribusiness in fostering drought-coping strategies. Collaborating partners include the Canadian International Development Agency (CIDA), Canadian Hunger Foundation (CHF), Care Zambia, Civil Society Network on Agriculture (CISANET), and CARE Mozambique. SADNET was the winner of the 2004

[189]UNDP, 2012. Drought Risk Management: Practitioners perspectives from Africa and Asia. http://www.unccd.int/Lists/SiteDocumentLibrary/Publications/Drought%20Risk%20Management%20-%20Practitioner's%20Perspectives%20from%20Africa%20and%20Asia.pdf

[190]Drought Risk Reduction Framework and Practices, UNISDR 2007.

[191] Southern Africa Drought Technology Network at www.safireweb.org

Yeoman's Award for Local Content for Africa.

African Drought Adaptation Forum: UNDP and UNISDR have also been instrumental in organizing an African platform for drought risk reduction- the African Drought Adaptation Forum (ADAF). The African Drought Risk and Development Network's fourth ADAF[192] took place in Nairobi on October 13-14, 2011. As a follow up to discussions of the previous three ADAFs and in light of recent discussions related to the on-going drought crisis in the Greater Horn of the Africa (GHA) region, the objectives of the ADAF4 were to provide a forum for participants to:

- Identify the key barriers and constraints to the promotion of sustainable drought risk management in the GHA region, particularly in the areas of: a) funding mechanisms for long-term drought mitigation; b) access to resources and services in drought prone areas; and c) enhancement of drought preparedness through improved early warning and action.

- Map the practical solutions to overcome the barriers and constraints identified through the sharing of experiences and lessons learned from proven drought risk management practices within and outside the Africa region; and

- Strengthen partnerships and cooperation among drought risk management practitioners for implementation of identified solutions.

The ADAF 5 was held in Arusha, Tanzania, together with the 4thAfrica Regional Platform on Disaster Risk Reduction. The ADAF5 featured methods and tools that measure the impact of drought risk reduction practices across the region. It also provided practical examples of impact and cost-effectiveness of drought risk reduction measures.

ADAF 5 served as a forum to introduce the benefits of employing a standardised methodology to measure the impact of drought risk reduction process, and to present1) broadly applicable indicators that both evaluate and aggregate short and long-term changes and trends in drought resilience as a result of interventions and 2) tools, which can build strong evidence to demonstrate that drought risk reduction really works.

School curricula: In 2006, ICPAC and UNISDR Regional Office for Africa began to develop DRR teaching materials appropriate for primary education in Eastern Africa. To this end, a series of materials was prepared, with one focused specifically on drought entitled: 'Safari's encounter with drought[193]'.

Poor school attendance and drought: Evidence outlined in the 2009 United Nations Global Assessment Report (GAR)illustrated the important long-term consequences of disasters related to poverty. For example, evidence from Zimbabwe, Tanzania and Ethiopia

[192]ADAF 1 was held in Nairobi, February 2005. ADAF 2 was also held in Nairobi, Oct 2006. ADAF 3 was held in Addis, Sep 2008. ADAF 4 returned to Nairobi in October 2011. ADAF 5 was held in February 2013 in Arusha, together with the 4th Africa Regional Platform on Disaster Risk Reduction.

[193]http://www.unisdr.org/files/8540_safaridrought1.pdf

suggests that impacts such as the long-term loss of assets, stunting and higher incidence of lower education are all linked to drought occurrence. In Côte d'Ivoire, school enrolment rates declined by 14% among boys and 11%amonggirls living in areas that experienced a rainfall shock whereas enrolment rates increased in all other areas.

Pastoralist field schools: A Pastoralist Field School (PFS) can be described as a 'school without walls', where pastoralists learn through observation and experimentation how to deal with risks and hazards affecting their livelihood. The purpose of a PFS is to improve the decision-making capacity of participants and their wider communities as well as to stimulate local innovation that can help increase resilience to drought and other hazards. The PFS concept is currently being taken up by numerous NGOs and actors operating in Kenya, Uganda and Ethiopia. The Food and Agriculture Organisation of the United Nations (FAO) itself has invested in pastoralist field schools in Kenya. By linking the PFS learning principles to processes of Community-Managed Disaster Risk Reduction (CMDRR), a powerful platform for technically-sound, collective action has emerged in several of the intervention sites, most notably in Karamoja, Uganda and Turkana, Kenya.

Drought management in tertiary education: A growing number of African universities are highlighting the importance of drought management as a skill for the new generation of decision makers. Two examples follow from Southern Africa:

- In collaboration with UNDP, the Institute of Development Management (IDM), operating in Botswana, Lesotho, and Swaziland[194] has developed expertise in disaster and drought management training. IDM has established links with England's Cranfield University Disaster Preparedness Centre. In collaboration with SADC, IDM developed a training programme called Project Management for Food Security and Poverty Reduction.

- The Governance and Development Division of the Lesotho Institute of Public Administration and Management (LIMAM)[195] offers a one-week course in Disaster Management with modules on disaster management, disaster mitigation, drought mitigation and training-of-trainers in disaster management. It also offers a one-week course in drought mitigation, which covers the accumulated risks of drought, identifies livelihood practices, action planning mitigation, the role of women in drought mitigation and HIV/AIDS and drought.

HFA PRIORITY 4: REDUCING UNDERLYING RISK FACTORS

The goal of drought mitigation is to reduce drought vulnerability and foster drought-resilient societies. Drought mitigation refers to any measure, whether structural/physical (e.g., engineering projects, drought resistant

[194]www.idmbls.com
[195]www.lipam.org.ls

crops) or non-structural (e.g., policy, knowledge, practice, public commitment) undertaken to limit the impacts of natural hazards, environmental degradation and technological hazards. DRR strategies can be included in environmental policy, social and economic plans and infrastructure development as well as in urban development planning.

Social safety nets are operational in the majority of countries as a means of increasing resilience to risk-prone households and communities. The drought risk reduction approach is a long-term commitment that complements long-term sustainable development planning efforts, such as meeting the MDGs and Poverty Reduction Strategies.

Guiding principles under this Priority include: supporting mitigation that is proactive and made central to disaster reduction; fostering dialogue between disaster reduction, development and response actors; and the selection of appropriate mitigation measures and approaches that engage at the local, regional and national levels.

EXAMPLES OF ADVANCES IN HFA PRIORITY 4

Eco-village model: The UN Office for Project Services (UNOPS) Kenya has been carrying out the assessment phase of the Government of Kenya's Ministry of Environment and Mineral Resources (MEMR) initiative, which seeks to assist communities with adaption to climate change through sustainable rural development[196]. Examples of similar initiatives that apply the 'eco-village model' have been implemented globally for the last 20 years.

Africa's first pilot was carried out in 2001 by NGOs in Senegal. There are currently 50 such villages in Senegal, which are operated predominantly by NGOs. However, in 2009 the Government of Senegal also adopted the approach and founded the Ministry of Eco-Villages, Artificial Lakes and Basins, with the intention of rolling out the project to all of Senegal's 14,000 villages.

In 2013, the Republic of Rwanda initiated as pilot programme the 'Resilience village model' in disaster prone areas. Communities appreciated this DRR approach and the ministry of disaster management and refuges affairs is working on up scaling these models to new areas.

These are two examples of African government ministries setting up knowledge-sharing partnerships, which include exchange visits of relevant technical staff to each other's projects to learn from successes and failures.

Ethiopia's Productive Safety Nets Programme: One of the largest safety net programmes in Africa – the Productive Safety Nets Programme (PSNP) – seeks to address chronic food insecurity among the most vulnerable populations in Ethiopia while providing people with guaranteed and predictive transfers. The public works are directed not only towards community infrastructure but also rebuilding and maintaining ecosystems. The PSNP is complemented by a Risk Financing Mechanism and backed by EWS, contingency plans and contingent funds which can scale-up PSNP responses in the event of an imminent drought.

[196] Phillips, C., 2012. *South-South Adaptation Knowledge sharing: Senegal eco-villages and Kenya eco-communities.* Disaster Reduction in Africa UNISDR Informs, UNISDR.

Development as drought strategy: In Nigeria, national policies are closely aligned to long-term development strategies. The National Drought Preparedness Plan (2007) was preceded by a National Action Programme (NAP) to combat desertification and mitigate the effects of drought. The NAP remains the main implementation modality for the policy. NAP was developed in 2000, in accordance with Article 10 of the UN Convention to Combat Desertification as a key operational tool for the implementation of the Convention. The NAP spells out long-term integrated strategies that focus simultaneously on improved productivity of land, and on the rehabilitation of resources in dry sub-humid, semi and arid areas of Nigeria, with particular emphasis on agriculture, water resource management as well as environmental rehabilitation, regeneration and conservation[197].

Embracing change: The recent crisis in the Horn of Africa has prompted analyses by Save the Children and IFRC of programming and modalities to learn how gains in effectiveness might be achieved through the strategic strengthening of three specific programming components: 1) during periods between drought crises, engage with change; i.e., support participatory development processes and innovations that increase resilience of vulnerable communities, thereby reducing their exposure to hazards which put them at risk of negative outcomes; 2) during periods of crisis, manage the risk and not the crisis; and 3) recognising that many people are seeking alternative and complementary options to pastoralism, and as such, create safer transitions for these populations[198].

HFA PRIORITY5: PREPAREDNESS

Preparedness means sound knowledge and capacity to effectively anticipate, respond to and recover from disaster events, based on sound disaster risk management. Preparedness actions are geared towards assisting at-risk communities' safe guard their lives and assets by taking appropriate action in the face of disaster. Effective drought preparedness planning is based on established policies and institutional capacity, sound drought risk identification and EWS and drought awareness and knowledge. Drought impacts and losses can be substantially reduced if authorities, individuals and communities and responsible agencies are well informed and trained for effective drought management. The proactive measures of mitigation and preparedness have a greater impact on reducing the scale, effect and impact of drought than reactive measures.

Preparedness is one of the HFA Priorities in which African countries have performed well. Institutional capacities have been strengthened in most countries, and contingency planning has been facilitated by RECs, which work closely with regional specialised institutions for climate change and risk management. These collaborative efforts have strengthened preparedness for drought, floods, cyclones and other climate related hazards. Regional climate outlook forums provide opportunities for information-sharing

[197]National Capacity Assessment Report.Federal Republic of Nigeria. July 2012.

[198]McDowell, S., 2012.Connecting with change: A risk management approach to the drought crisis.*Disaster Reduction in Africa UNISDR Informs.*

among member countries, helping with preparedness. Further, in many regions, annual pre-season preparedness workshops foster discussion and aid the coordination of contingency planning for floods, cyclones and drought, depending on forecast predictions.

Guiding principles for both preparedness and mitigation require long-term consideration in planning, the commitment of resources and the use of proactive and appropriate measures.

The European Commission has invested significantly in drought preparedness (See Chapter 7).

EXAMPLES OF ADVANCES IN HFA PRIORITY 5

Assets for recovery in Uganda: The Karamoja Productive Assets Programme (KPAP) in Uganda is a large-scale food, cash-for-work and asset creation programme that supports government efforts to promote recovery and longer-term development in this region of the country. Launched in 2010, KPAP has been supporting 76,000 chronically food insecure households (roughly 38%of the population) with labour capacity tools to transition from dependence on food aid towards self-reliance. The objectives of the programme are twofold: first, to prevent the spread of negative coping strategies during the traditional hunger season and second, to stimulate recovery.
A livelihood is sustainable when it can cope with and recover from shocks, and when it can maintain or enhance its capabilities and assets while not undermining the natural resource base[199].KPAP seeks to strengthen households' resilience to shocks and adverse events by building sustainable livelihoods.

Contingent financing in Ethiopia: In support to the National Food Security Program (NFSP), the World Food Programme (WFP) and the World Bank are working with the Government of Ethiopia to help develop an integrated national contingent-financing framework through the Livelihoods, Early Assessment and Protection (LEAP)[200]Project. LEAP combines early warning, contingency planning, risk profiling and contingency finance to support the flexible operationalization of national-level productive safety nets.

LEAP helped the Government of Ethiopia to establish a national DRM framework and increase the timeliness, transparency and cost effectiveness of livelihood assistance interventions. During the first project phase, a national food security early warning tool was created, and a training mechanism was established to train government staff, who in turn trained regional officers. The creation of early warning mechanisms resulted in the generation of regularised crop monitoring and drought early warning information, which is now used by the Government in its decision-making processes. LEAP also strengthened the country's national meteorological infrastructure and improved access to existing meteorological data through close collaboration with the National Meteorological Agency. Inter-ministerial collaboration was also enhanced, with official partnership agreements established and dialogue and

[199]World Food Programme. Disaster Reduction in Africa UNISDR informs, 2012.
[200] Disaster Reduction in Africa UNISDR informs, 2012.

information exchange promoted as part of the project's implementation.

The second LEAP phase (2012) focused on support for the improvement of the LEAP food security early warning tool, which included the creation of an index to monitor pastoral areas, integration of seasonal projections to improve the understanding of the new rainfall patterns and integration of LEAP outputs and livelihood baselines for comprehensive early warning and assessment.

Based on the success of Ethiopia's experience, WFP and partners are now exploring options for replicating the LEAP approach in other countries – helping them to shift from managing droughts to managing risks and improving the food security of vulnerable communities (Box 17).

Box 17: **Sustainability and Replicability in LEAP**

The LEAP approach seeks to ensure the sustainability and continuity of the established risk management framework. This is pursued through various means:

- Government project ownership and project management structures that are integrated fully into the Government's early warning/early response institutional mechanism;
- Continued transfer of technical knowledge and expertise to local actors;
- Creation of a risk financing mechanism aimed at increasing the cost effectiveness of livelihood protection interventions; and
- Use of innovative technology with limited running costs. This includes the use of free satellite data for crop monitoring and the installation of fully automated weather stations.

Source: Disaster Reduction in Africa UNISDR Informs 2012.

Drought contingency planning in the Greater Horn of Africa (GHA)[201]: While contingency planning processes, guidelines and evaluation have been studied at the national government and inter-agency levels, there has been little research on and examination of the critical gaps in contingency plans and Planning for implementing partners with regard to effective drought preparedness and response at the community level. The main gaps and barriers to implementation as identified in evaluations on the subject (UNISDR/EC, 2012) are listed in Box18.The analysis suggests that in order to ensure long-term sustainable funding, contingency planning must be linked to

Box 18: **Main gaps identified for drought contingency planning in the GHA, 2012:**

- The definition of drought remains unclear in drought contingency planning.
- Linking drought contingency planning to drought cycle management has for years simplified and misled contingency planning processes.
- Drought contingency planning is not administratively, geographically or thematically focused, leaving grey areas, especially in early warning information interpretation for funding.
- Drought contingency plans fail to coordinate inter-agency drought contingency planning.
- Drought contingency plans lack planning and are not enforceable.
- Drought contingency plans emphasise formulation more than evaluation.
- Drought contingency plans are often developed to fulfil donor requirements
- Drought contingency plans are only partially participatory.
- The cyclical nature of drought contingency plans limits community resilience to drought impacts.
- Drought contingency plans are not linked to sustainable contingency funds but instead are confined to EWS information for sectoral planning.

all stages of drought risk management and treated as part of the development process.

As already identified, there are DRM policies in Kenya (draft), Ethiopia and Uganda, all of which support drought contingency planning and funding. In December 2012 UNISDR Regional Office for Africa conducted a two-day workshop to review understanding of and good practice in contingency planning specific to drought. It brought together national government agents from these three countries, together with United Nations and INGO entities to explore how drought contingency planning works best in the sub-region context.

Box 19: BARRIERS TO ADDRESSING THE ROOT CAUSES OF DROUGHT IN AFRICA

DRM/DRR policy makers and practitioners increasingly favour mechanisms and interventions that are proactive rather than reactive to the impacts of drought. Proactive measures include policies and plans that emphasise the principles of risk management (UNDP March 2012). In 2011, participants of the Africa-Asia Drought Risk Management Peer Assistance Network (AADP) reviewed the current landscape of institutions and programmes in the realm of drought risk management. The group identified the following concerns and measures of recommendation common for both continents:

- Drought will worsen in the coming decades.
- The impact of drought is most commonly felt through a decline in crop yields, a rise in food insecurity and the depletion of water for human use.
- The most important underlying cause of drought impacts and the main contributing factor to drought vulnerability is the chronic destruction of ecosystems in drought-prone areas as a result of a) environmental degradation; b) poor water resource management and; c) the inability of the vulnerable to influence government decision-making.
- Drought is addressed on a sector basis predominately in the areas of food security and water, sanitation and hygiene (WASH). This reflects response to drought impacts rather than to their main causes.
- Inadequate interventions for risk-prevention result from the 1) lack of political will and 2) inherent complexity and the non-structural nature of drought as well as its slow-onset and elusive effects that are not always immediately apparent.
- There is a widespread belief that drought is inevitable because climate change is the number one reason for the impacts of drought.
- Climate change has exacerbated communities' ability to be drought resilient.
- Climate change issues must be addressed within the context of household resilience and safety.
- A severe barrier in Africa to addressing causes of drought impacts is a persistent lack of funding.
- All communities are not equal in their needs relative to DRR in time and space; what works in one community may not work in another due to variation factors such as hazard type, geography, geology or frequency of events. Conceptual frameworks, therefore, should consider context-specific and appropriate measures that will have the greatest impact on assessment, risk and disaster impact as well as on vulnerability.

Source: Asia-Africa Risk Management Peer Assistance Network. UNDP, 2012

6.1.3 Gaps, challenges and steps ahead for dealing with droughts

While Africa has made substantial progress in the implementation of the HFA and the ARSDRR, considerable gaps and challenges still exist. The capacity to deliver concrete results that will directly benefit vulnerable communities in sustainable ways is one of the challenges and priorities leading up to 2015. These capacity challenges manifest themselves in various ways, from weak institutional capacity and inadequate investment in DRR, to insufficient understanding of the importance of investing in DRR[202]. For example, various drought contingency plans reviewed in Kenya, Ethiopia and Uganda (at the district, regional and national levels) revealed that there was inconsistency in the models adopted for drought contingency planning[203].
While critical gaps were identified in the contingency planning study specific to the Horn of Africa[204], these gaps and the challenges they bring are similar for most regions in Africa [205][206][207](see Box 19 above). Drought brings with it specific challenges for planning and implementation. Some of these, highlighted by various authors on the subject, are identified below.

One critical gap that UNISDR has identified in most contingency plans it has reviewed is the inconsistent and ambiguous definition of drought. Effectiveness in such cases has been impeded because the contingency plans were developed without a clear understanding of the type of drought to which they were responding. In fact, many plans tend to be reactive, developed on response to a possible crisis that has not been clearly identified. The lack of consistent and clear definitions often means that activating a plan is either late or it lacks consistency in its application to adjacent areas.

Drought has different and unique characteristics compared to other natural hazards, and as such, it is difficult to analyse drought vulnerability and risk within the same framework of other natural hazards, or assess its impact. Drought policy formulation processes must distinguish between, and take into account: (a) the *general development challenges* of regularly drought-prone areas such as dry lands, (b) the *specific impacts* of drought on populations, their resource base and livelihoods; and (c) different ecological and/or economic zones, as they may have different degrees of rainfall dependence and different types and degrees of coping and adaptive capacities[208](see text box).It should also be recognised that different drought risk policies are required for different parts of the economy, with coordination between them.

Drought contingency planning also lacks a trans-boundary approach as

[202]Progress made at regional and sub-regional level (draft). 4th African Regional Platform and 4th Global Platform.AU, nd.
[203]Drought contingency plans and planning in the Greater Horn of Africa.UNISDR 2012.
[204] Drought contingency plans and planning in the Greater Horn of Africa UNISDR 2012
[205]Progress made at regional and sub-regional level (draft). 4th African Regional Platform and 4th Global Platform.AU, nd.
[206] Disaster reduction in Africa: UNISDR informs 2012.
[207]Asia-Africa Risk Management Peer Assistance Network.UNPD, 2012.

[208] Patrick, E., 2012. *Drought risk reduction special topic*. Disaster Reduction in Africa UNISDR Informs.

many drought efforts follow administrative or political borders – even though regions affected by drought are often interconnected by eco-hydrological systems and the impacts of meteorological and hydrological drought events often extend beyond the administrative borders of specific administrative areas.

Steps for future drought risk reduction must highlight the need to develop ways to increase DRR efforts at all stages, particularly at the response and recovery stages. Drought cycle management, the cyclical process that defines what actions are to be taken during the different stages of a drought, is static, with few changes in the specific stages. With the focus on alert and activation for short-term, repeated measures, it is difficult to focus on mechanisms and measures for other priorities such as large scale or long-term risk management[209].

It is also crucial to increase risk reduction or disaster mitigation to develop community resilience. Successful community resilience in Africa must emphasise risk reduction, preparedness, early warning, early action and response. Most drought contingency plans to date focus strictly on response, with little emphasis placed on mitigation or risk reduction. This could be a result of several factors, including: the technical capacity, timing and duration of development or, that planning is not part of a larger scale risk reduction strategy. It is essential to accept that, although we may not be able to alter trends in rainfall, we can build resilience such that one or more consecutive drought years do not systematically result in a disaster or famine.

By 2030, at least 61 % of the global population will live in cities and over 2 billion people in the world will be living in slums.

6.2 URBAN RISK

6.2.1 Urban Risk in Africa

Rapid urbanisation is putting more and more people at risk of natural and technological hazards, the more so as climate change unfolds[210]. The largely unplanned expansion of cities to accommodate rapid population growth, combined with unsuitable land-use and the failure of urban authorities to regulate building standards, contribute to the vulnerability of urban populations. Inadequate living conditions of poor populations, as well as poor nutrition, poverty, illiteracy and deficient or non-existent sanitation, constitute a permanent threat to the physical and psychological security of populations and create 'everyday risks', which cause small-scale disasters on an on-going basis. Disaster risks from extreme natural hazards are compounded by these everyday risks, resulting in a process of 'risk accumulation' specific to urban areas, where risk is amplified by human activities. Urbanisation, therefore, often increases the exposure of people and economic assets to hazards and creates new patterns of risk, making the management of disasters in urban areas particularly complex.

Nevertheless, rapid urbanisation can also be a force for improved human security from natural disasters. Cities are usually the economic drivers within their

[209]Levine et al., 2011.System failure?Revisiting the problems of timely response to crisis in the Horn of Africa.

[210]Urban Risk Management. Bureau for Crisis Prevention and Recovery UNDP, October 2010.

countries and the centres of intellectual, political, business and financial activities[211]. If managed well, cities have huge potential for influencing improvements in risk management.

How is this possible? Such advances are achievable through economies of scale and the proximity of risk-reducing infrastructure and services, such as provision of sanitation, drainage, waste collection, health care and emergency services, and through the use of the types of high-level technical expertise and knowledge that cities often contain. Urban centres typically have people with comparatively higher levels of education living in better-informed communities, who are part of powerful economic and political interest groups that control economic resources - all of which are potential amplifiers of DRR efforts.

Recognising the immense disaster risks faced by urban centres, UNDP has implemented several urban risk management projects with a clear focus on local action. Efforts and progress in Africa by UNISDR'Making Cities Resilient'[212] global campaign are reviewed below.

Urban risk in Africa is a combination of factors: location and exposure to hazards, and an increased vulnerability due to poor local governance, environmental degradation and the overstretching of resources[213].

One popular belief is that drought-related disaster risk and impacts are concentrated in rural and poverty-prone areas. Contrary to this perception, however, is the fact that many disasters, including indirect impacts resulting from drought, occur in or near urban settings, affecting millions of people each year. However, urban populations face several challenges relative to disaster, risk and vulnerability. Cities can be hazardous places in which to live and work, concentrating people, their ventures and their waste. Cities are also dynamic environments impacted by population change, economic, environmental and social challenges (Box 20).

Today, the rapid expansion of cities and urban areas is exposing a greater number of people and assets to the risks related to inadequate access to health, education and economic opportunity as well as increasing their vulnerability to the effects and impacts of natural hazards. For example ,in response to the 2011 drought in the Greater Horn of Africa, examination of population movements in Kenya and Ethiopia provided evidence that the ways in which people live together are changing; specifically in relation to, migration to urban and peri-urban settlements, with some officials reporting a 40% increase in household numbers in a period of 6 months[214].

Typically, risk can be reduced by responses that are put into place before a disaster occurs. For cities, responses are often incorporated into infrastructure planning and implementation: storm drains, land use planning and building codes(e.g. for fire and earthquake proofing). However, as more and more settlements establish rapidly on the urban periphery, they often develop on unsuitable land such

[211] Ibid.
[212]See www.unisdr.org/campaign/resilientcities
[213]Urban Risk Management. Bureau for Crisis Prevention and Recovery UNDP, October 2010.
[214] McDowell, S. *Connecting with change' a risk management approach to the drought crisis*. Disaster reduction in Africa, UNISDR Informs.UNISDR, 2012.

as landfills, brown fields and floodplains. Investments in the development of infrastructure are often not implemented due to timing, inadequate and poor policy and onerous governmental regulations.

Box 20: Ways that urban development can increases vulnerability

- Disaster risks from a sudden movement of people to a city (in response to war or famine, for example).
- Cities concentrate activities with disaster potential – industrial accidents, transport accidents, fires or epidemics
- Patterns of urban form and buildings can increase scales and levels of risk from floods, landslides, earthquakes, fires, transport accidents or industrial accidents
- Actions of local governments through inadequate or poor planning and financing that cause or increase risks from floods, landslides, earthquakes, fires, transport accidents and industrial accidents.
- Changes in the regions around cities, which can cause or exacerbate risks from floods (e.g., poor watershed management – often a particular problem for city governments as the watershed lies outside their jurisdiction).

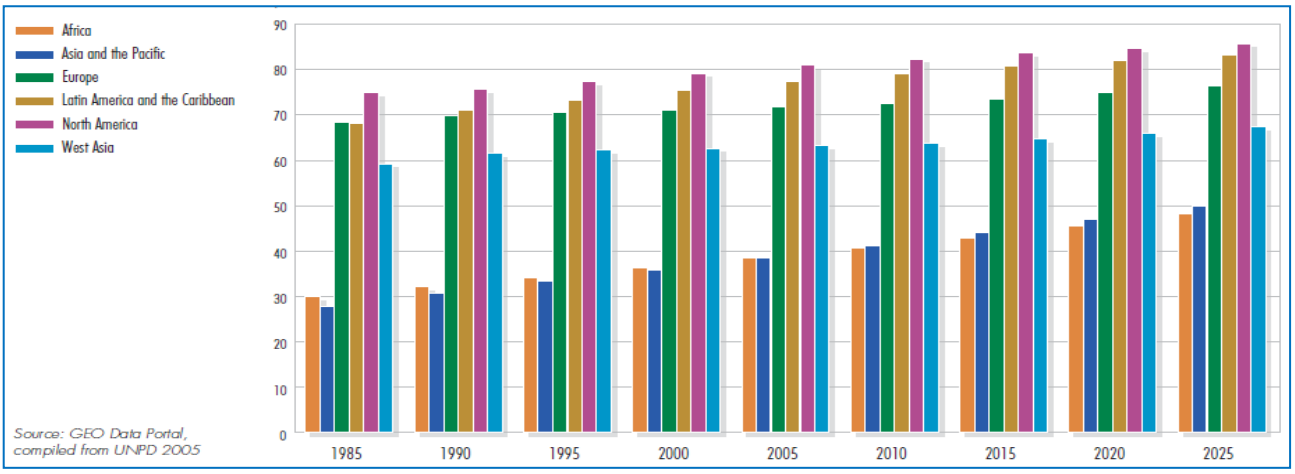
Source: Satterthwaite, D. *Investigating urban risk accumulation in six countries in Africa*. Complied by Mark Pelling with contributions by David Satterthwaite, 2007.

According to UN-HABITAT[215], Africa has the highest rate of urbanisation in the world. As shown in Figure 21, 37% of Africans live in urban environments, and if current trends continue, half of Africa's population will be urban by 2050. With 1.2 billion people already living in cities and towns, Africa's cities will soon host nearly one quarter of the world's urban population.

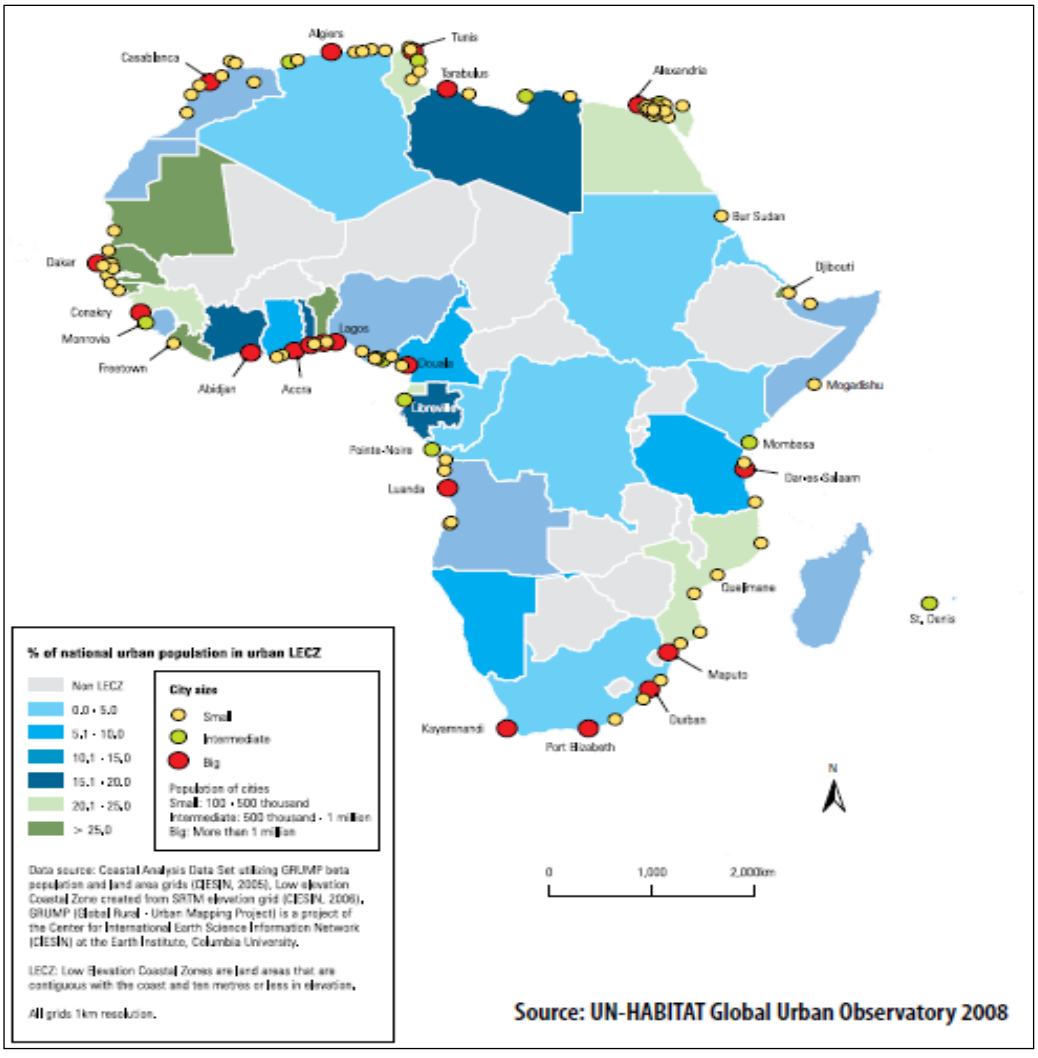
Most urban growth in Africa is driven by natural growth among already marginalised urban populations and inward migration of the poor and displaced. Consequently, the growth occurs in unplanned urban Most urban growth in Africa is driven by natural growth among already marginalised urban populations and inward migration of the poor and displaced. Consequently, the growth occurs in unplanned urban settlements where construction is of low quality and takes place on occurs in unplanned urban settlements where construction is of low quality and takes place on land that is often unsuitable for habitation.

[215] UN HABITAT State of the World's Cities, 2008.

Figure 18: Urban population by region, as % total



Recent UN-HABITAT research indicates that in Sub-Saharan Africa, 62% of the urban population lives in slums or suffers from one or more of five shelter deprivations that define a slum. Slum households are likely to lack clean water, sanitation facilities, durable housing or sufficient living space.



The new urban centres of Africa are generating a multi-layered accumulation of disaster risks. Firstly, population density increases overall exposure to natural hazards. In the case of an earthquake or a flash flood occurring in an urban centre, more people live and work in the affected area and are therefore likely to suffer losses as a result. Secondly, the poor environmental conditions of most informal settlements increase overall vulnerability to a range of hazards. Thirdly, the urban population of African countries is vulnerable to food insecurity. Although city-dwellers are no longer greatly affected by the direct impacts of drought or insect infestations, they are still vulnerable to problems of food availability and price rises such as those experienced in Africa in 2008.

Climate change also poses a real threat to urban inhabitants. As shown in Figure 22, Africa has 37 cities with populations above one million persons that are within low-elevation, coastal zones and are vulnerable, therefore, to sea level rise, coastal erosion, storms and flooding, as described in the previous section. Cities located at higher elevations are at risk from landslides and flash floods.

Changes in environmental conditions associated with climate change could also result in, among other things, a resurgence of malaria and waterborne diseases, with severe consequences for a growing urban population without appropriate water and sanitation services.

As the negative impacts of climate change are increasingly felt by agriculturalists and pastoralists in rural areas, migration to urban centres will continue and is likely to increase, thereby perpetuating the cycle of poverty and vulnerability.

Most disaster-prone cities are unprepared for future disasters and are ill-equipped to reduce the associated risks. Policy makers face numerous challenges with respect to urban risk management, including lack of adequate knowledge and administrative capacities; weak finances; a lack of coordination; weak laws and lack of agreement between departments 'enforcement mechanisms; and corruption. There is an urgent need to promote a culture of prevention at all levels and to improve management practices.

In accordance with the HFA Priorities and the MDGs, the Urban and Local Development Unit of the World Bank, UN-HABITAT, UNDP and UNISDR office have been working to address urban risk and vulnerability. Recent projects range from comprehensive national DRR programmes to city-specific, urban DRR programs at the municipal level as well as the provision of educational opportunities[216].In cooperation with 24 other agencies, UNISDR initiated the 'Making Cities Resilient: 'My City is getting ready!''[217]Campaign in 2010. The centrepiece of the comprehensive, multi-hazard approach of the Campaign is local action for building disaster-resilient cities through legal and legislative instruments and utilising technical tools that prioritise DRR as an integral part of the urban development process. More than 35 cities in Africa are participating in the Campaign, which is guided by three central principles

[216] Regional conference on capacity development for integrating disaster risk reduction in urban settings in Africa http://www.preventionweb.net/english/professional/trainings-events/event

[217]See www.unisdr.org/campaign/resilientcities

grounded in the five Priorities for Action of the HFA: 'know more, invest wiser and build safer'.

Since its launch in May 2010, the Campaign has produced a number of tools to help local leaders assess, monitor, document and improve their DRR activities. These include the Ten Essentials for Making Cities Resilient Checklist; LGSAT; the Handbook for Local Government Leaders on How to Make Cities More Resilient; and a comprehensive website. The Campaign has also engaged in a wide range of meetings and technical support activities with city leaders, both regionally and at the international level.

Based on the success of the Campaign and stock-taking by partners and participating cities during Phase I (2010-2011), the Campaign next shifted its focus to providing greater support for implementation, city-to-city learning and cooperation, local action planning and monitoring of progress in cities. Continuing to advocate widespread commitment by local governments to build resilience to disasters and increased support by national governments to cities for the purpose of strengthening local capacities remains a priority. There is a strong view that, in order to support development of 'industry standards' and innovative urban risk reduction solutions, private sector partners should be targeted.

ENABLING CITIES TO BECOME MORE RESILIENT[218]

In this context of strengthened of capacity and remaining extant gaps, several factors are enabling cities to become more resilient to disasters and motivating local governments to take action on DRR. Based on an analysis of the findings of cities and local governments participating in 'Making Cities Resilient: 'My City is getting ready!'' Campaign, such factors include strong leadership and political will; the sustainability of institutional capacities and resources at the local level; engaging in high-impact activities early on; forging partnerships and city-to-city learning opportunities; integrating DRR across sectors; and recognising improvements needed to make infrastructure more resilient. These and other factors form the essential foundations of resilience[219].

In Africa, the Campaign continues to play an important DRR advocacy role for local leaders by presenting disaster risk in engaging and accessible formats as well as providing them with essential resources to take stock of, and improve, their activities.

The focus of a recent report (Box 21) on resilience reflects a mounting recognition that DRR, CCA and sustainable development are inextricably linked. These issues present mutually dependent challenges, which require collaborative, integrated strategies, strong governance as well as innovative technological and financial solutions. Nowhere is this more evident than in Africa's cities. Complex and unique in their political and economic structures, and widely varying in the vulnerabilities they face, cities – and the growth they will experience over the next two decades – will give way to some of the 21st century's most important social and economic challenges and opportunities.

[218]Making Cities Resilient Report 2012.UNISDR.

[219]Making Cities Resilient Report 2012.UNISDR.

Box 21: **Profiles of Cities** in Africa
(As profiled in the 'Making Cities Resilient' Report 2012 (Phase I)[1], reporting the outcomes of a pilot project to operationalize the Making Cities Resilient Campaign' in six African cities).

Narok, Kenya; Population: 60,000. **Location:** southern side of the Rift Valley, characterised by varied topography with a predominantly agricultural economy base. **Risk profile:** Flooding and drought.

Kisumu, Kenya; Population: 200,000. **Location:** port city in western Kenya, located on Lake Victoria. **Risk profile:** flooding is the most significant hazard.

Cape Town, South Africa; Population: 3.7 million. **Location:** a coastal city in the Western Cape Province on the south-west coast of South Africa **Risk Profile:** storm surge, heat wave, floods, fires and drought. **Cape Town is a Campaign Role Model City under the theme**: Informal Settlement Upgrading and Ecosystem Protection.

Johannesburg, South Africa; Population: 3.5 million. **Location:** in the eastern plateau area of South Africa known as the Highveld, at an elevation of 1,753 metres. **Risk profile:** intense rainfall and flooding.

Overstrand, South Africa; Population: 76,000. **Location:** situated within the Overberg District Municipality of South Africa's Western Cape Province. **Risk profile:** drought, flooding and fire.

Moshi, Tanzania; Population: 150,000. **Location:** a market hub town in north-eastern Tanzania at the foot of Mount Kilimanjaro. **Risk profile:** drought and floods.

URBAN RESILIENCE IN AFRICA

The African Campaign cities at the earliest stages of resilience building - Kisumu, Kenya; Moshi, Tanzania; and Narok, Kenya - are all located in low-income countries. This suggests an association between resilience and the level of a city's socio-economic development. In these cities, resilience has been constrained by a lack of data on local risks, low financial and human capacity, poorly maintained and deficient infrastructure and inadequate channels of risk communication between state and city governments and communities. Low socio-economic development and high poverty levels in these cities have meant that, to date, DRM has remained a low priority, with limited resources for emergency preparedness and recovery. Instead, the main priority of such cities has been on improving basic infrastructure (Box 22).

Kisumu, Moshi and Narokall extoll the Campaign's benefits in that it provided a much-needed networking forum through which cities at more advanced stages of resilience building can offer technical knowledge and provide examples of effective risk reduction approaches. For example, involvement in the Campaign has opened access to technical assistance on DRR from institutions such as the Earthquakes and Megacities Initiative (EMI), the Asian Disaster Preparedness Centre (ADPC), the Japan International Cooperation Agency (JICA), UNDP, ICLEI and UN-Habitat, among others. In Kisumu, JICA is supporting training in schools (where evacuation centres have been built) as well as awareness-raising initiatives in local communities.

Many cities have highlighted the value in the process of applying the self-assessment tool. This has helped spur discussions about DRR, stimulate interest in, and a demand for, further

information about risk, helped to diagnose current weaknesses and embedded DRR in broader urban activities. In Kisumu, Moshi and Narok, the consultation process for the application of the self-assessment tool provided concrete opportunities to discuss DRR. As a result of taking part in the assessment, knowledge and networks in these three cities have expanded and stimulated further interest and demand for information.

Box 22: **Characteristics of cities in developing countries**

African cities typically share a range of characteristics common to cities in developing countries:

A high proportion of the population lives in poor-quality and overcrowded housing in informal settlements; and many work in the informal economy.

Many informal settlements are at high risk of fire and are located on hazardous sites (e.g. at risk from floods, landslides or earthquakes).

Risk levels are increased by a lack of infrastructure and services in many residential areas (including drainage and emergency services)

Governments are ineffective in taking measures to reduce risks

Much of the population has a limited capacity to pay for housing.

Note: in Africa, Gross National Product (GNP) does not track with increases in urban growth.

6.2.2. Advances in Urban Risk Reduction, as related to the ARSDRR and HFA

Urban risk reduction measures, based on the Ten Essentials for Making Cities Resilient[220] (the 'Ten Essentials'), reported by African cities are listed below, as they relate to the HFA Priorities. Table 33 demonstrates the relationship between Ten Essentials and the HFA Priorities/ARSDRR Objectives.

HFA PRIORITY1: POLICY AND INSTITUTIONAL FRAMEWORKS

The Ten Essentials related to HFA Priority 1 (and ARSDRR Objective 1) are Essentials1 and 2:

Essential 1: Put in place organisation and coordination to understand and reduce disaster risk, based on participation of citizen groups and civil society. Build local alliances. Ensure that all departments understand their role in DRR and preparedness; and
Essential 2: Assign a budget for DRR and provide incentives for homeowners, low-income families, communities, businesses and the public sector to invest in reducing the risks they face.

EXAMPLES OF ADVANCES IN HFA PRIORITY1

South Africa's 2002 Disaster Management Act included proactive risk reduction as one of its central pillars and required all levels of government to address risk reduction.

[220]Making Cities Resilient Report 2012.UNISDR. http://www.unisdr.org/files/28240_rcreport.pdf

Two examples of resilience-building partnerships are 1) Climate Smart Cape Town (a partnership between private, public and faith-based organisations whose task is to discuss climate change issues and contribute to city and provincial government adaptation plans) and an alliance between the Department of Arts and Culture, the NGO Art scape and the Disaster Risk Management Centre (DRMC), which resulted in a school-run youth theatre programme.

Activities related to Essentials 5, 7, and 8 have also been combined through the Youth Environmental School (YES)Programme, which promotes hazard preparedness as part of a wider environmental awareness programme that also covers recycling and sustainable energy use.

Another South African programme is the City Upgrading Programme, which began in 2009 with five pilot projects. Since the establishment of a democratic government in South Africa in 1994, national and local governments have sought to address the legacy of apartheid that included a lack of critical risk reduction in infrastructure, particularly in previously non-white areas and informal settlements. In keeping with national policy, the Programme recognises that poorer sectors of society experience disproportionate risk from disasters, and thus it focuses its activities on improving living and safety conditions in densely populated informal settlements. The Programme involves partnering with communities who create steering committees to identify community assets and challenges. These committees survey an average of 10% of their community and the results feed into a Community Action Plan to improve basic infrastructure, expand roadways to allow access for emergency vehicles as well as improve access to water and sanitation. They have also constructed

Table 33: Alignment between the Ten Essentials for Making Cities Resilient and the HFA Priorities

HFA/ARSDRR	Ten Essentials
Priority 1 / Objs. 1 and 5, Policy and Institutional Frameworks	**Essential 1:** Put in place organisation and coordination to understand and reduce disaster risk, based on participation of citizen groups and civil society. Build local alliances. Ensure that all departments understand their role to disaster risk reduction and preparedness **Essential 2:** Assign a budget for disaster risk reduction and provide incentives for homeowners, low-income families, communities, businesses and public sector to invest in reducing the risks they face.
Priority 2 / Obj. 2: Risk Identification and Knowledge	**Essential 3:** Maintain up-to-date data on hazards and vulnerabilities, prepare risk assessments and use these as the basis for urban development plans and decisions. Ensure that this information and the plans for your city's resilience are readily available to the public and discussed fully with them and; Essential 9: Install early warning systems and emergency management capacities in your city and hold regular public preparedness awareness and training sessions
Priority 3 / Objs. 3 and 4: Knowledge Management and Education	**Essential 7:** Ensure education programmes and training on disaster risk reduction are in place in schools and local communities
Priority 4: Reducing underlying risk factors	**Essential 4:** Invest in and maintain critical infrastructure that reduces risk, such as flood drainage, adjusted where needed to cope with climate change; **Essential 5:** Assess the safety of all schools and health facilities and upgrade these as necessary. **Essential 6**: Apply and enforce realistic, risk-compliant building regulations and land use planning principles. Identify safe land for low-income citizens and develop upgrading of informal settlements wherever feasible; **Essential 8:** Protect ecosystems and natural buffers to mitigate floods, storm surges and other hazards to which your city may be vulnerable. Adapt to climate change by building on good risk reduction practices. **Essential 10:** After any disaster, ensure that the needs of the survivors are placed at the centre of reconstruction with support for them and their community organisations to design and help implement responses, including rebuilding homes and livelihoods.
Priority 5 / Obj. 6: Preparedness	**Essential 9:** Install early warning systems and emergency management capacities in your city and hold regular public preparedness awareness and training sessions.

educational day-care centres for children, run in conjunction with the Department of Education. These examples illustrate the value of cross-sector and cross-scale partnerships in building resilience. They also highlight the potential of a mainstreamed approach to DRR in addressing multiple challenges simultaneously, and the importance of government leadership in facilitating relationships between stakeholders.

Some municipalities are sharing the burden of risk reduction by encouraging households to do their part as well. For example, communities in Moshi are encouraged to clear drains in front of their houses each week, in order to reduce the burden of flood preparedness on the municipality. Households are also encouraged to store food and crops for use during drought periods.

The specialised knowledge of private enterprises can offer local governments advice, expertise and technical support. Yet, gaining the attention and support of business remains a challenge for many municipal governments. Cape Town, Narok, Kisumu, and Moshi all report low private sector engagement as one of their challenges.

On a related note, there are few examples from Campaign cities of private sector contributions. However, in Cape Town, a private engineering firm helped with risk assessment for 60 different hazards.

While there are many innovative methods for financing, most cities report that funding for DRR initiatives is still insufficient, especially for cities at the early stages of resilience building.

Cities also reported their use of two different types of municipal budgets to finance risk reduction initiatives. The first is to have a distinct budget for DRR and recovery, channelled through a disaster management agency. The second route is to integrate DRR across the budgets and projects of existing municipal departments. In Cape Town, financial support for risk reduction projects forms an element of existing development or environmental projects.

Most relief funds come from the national level, but many cities also have financial arrangements in place for providing relief funds. In South Africa, the Disaster Risk Management Act and the Social Assistance Act created a framework that provides post-disaster funding when a disaster is declared. Cape Town has always managed with these funds, but it is an area of concern because the Government must declare a national disaster event in order to access the funds. The country's Municipal Finance Management Act stipulates that no contingency funds are allowed, although discussions are underway to see if there is a way to address this restriction.

HFA PRIORITY 2: RISK IDENTIFICATION

The Ten Essentials relating to this Priority are Essentials 3 and 9:

Essential 3: Maintain up-to-date data on hazards and vulnerabilities, prepare risk assessments and use these as the basis for urban development plans and decisions. Ensure that this information and the plans for your city's resilience are readily available to the public and fully discussed with them.

Essential 9: Install early warning systems and emergency management capacities in your city and hold regular public preparedness.
Essential 9 is also reflected in HFA Priority 5.

EXAMPLES OF ADVANCES IN HFA PRIORITY 2

Many cities have undertaken some form of hazard and vulnerability assessment and created risk maps, often using GIS, to inform policy and planning. These assessments usually relate to different hazards and use different methodologies[221]. Cape Town and Johannesburg have completed disaster risk assessments. Cities responding to threats from climate change have spurred the development of more comprehensive risk assessments, of which Cape Town and Johannesburg are good examples. These disaster risk assessments are a testament to the close and productive relationship forged between the scientific and policy-making communities.

At an early stage of its resilience building, Cape Town's local government conducted a citywide Comprehensive Disaster Risk Assessment (DRA), which included: a) a scientific hazard and vulnerability analysis and b) a community-based risk assessment, in order to ensure that development initiatives and disaster planning were informed by accurate, locally-based knowledge. The DRA identified priority risk areas, which in turn helped to focus research and policy-making in areas that would have the greatest potential impact. Climate change risks in the DRA are addressed in Cape Town's Climate Adaptation Plan of Action, currently being developed. This contains sector-specific adaptation plans that ideally will be embedded citywide to increase Cape Town's overall resilience.

Cape Town also analysed local rainfall and climate change projections, which led to a 15% budget increase for use in planning storm water systems and for flood management plans. In addition, the Climate Change Think Tank initiated an in-depth risk assessment and modelling of a major catchment are in an attempt to better understand the flood risk within a range of climate change scenarios. This project will be repeated for all the city's other significant catchments. The results will then feed into catchment management plans, the infrastructure investment strategy, and will inform approval of the city's building plan. Another example is the drafting of a municipal by-law that will, once enacted, enforce a moratorium on development in high-risk coastal areas. This instrument is being developed following a study of the anticipated future rise in sea levels.

Similarly, Johannesburg's Disaster and Adaptation Plan (built on the 2008 Climate Change Vulnerability Assessment, which helped to identify priorities for medium and long-term research within and across sectors) has been integrated into the city's Comprehensive Disaster Management Plan. This process has thus contributed to knowledge building, policy development and iterative adaptation informed by on-going research.

The development of these disaster risk and climate adaptation plans, informed by scientific research, are both

[221] Also see Urban Risk Assessments: An approach for understanding disaster and climate risk in cities. Urban Development and Local Government Unit, Finance, Economics and Urban Development.The World Bank, 2011.

significant and important in terms of enabling cities to implement risk reduction, mitigation and adaptation activities that are locally-relevant and in line with the latest risk knowledge.

HFA PRIORITY 3: KNOWLEDGE MANAGEMENT AND EDUCATION

The Essential from the Ten Essentials related to HFA Priority 3 is:
Essential 7: Ensure education programmes and training on disaster risk reduction are in place in schools and local communities.

EXAMPLES OF ADVANCES IN HFA PRIORITY 3

Mass public awareness campaigns encourage changes in household-level behaviours toward risk reduction and ensure that early warnings are acted upon. Some campaigns are conducted annually by virtue of a city's location and predictable climate events (e.g. hurricane season). Other cities focus on a particular hazard facing them. These include Cape Town's urban sustainability 'Smart Living Campaign' and Overstrand's water conservation awareness effort to reduce the impacts of drought.

Some cities also offer incentives to encourage public engagement in risk response. For example, the St John's Ambulance Service in Kisumu, Kenya runs a local first aid competition that feeds into regional and national-level competitions.

Several cities use national or global DRR events to heighten public engagement. South Africa, Nigeria, Kenya, Ethiopia and Uganda have participated in International Day for Disaster Reduction (held annually on 13 October). It is also common for some countries to observe the anniversary of a significant national disaster.

Some cities employ innovative strategies to increase awareness of DRR, such as engaging young people in art and media projects, which simultaneously promote community cohesion and individual personal development.

HFA PRIORITY 4: REDUCE UNDERLYING RISK FACTORS

The Ten Essentials related to HFA Priority 4 are Essentials 4,5,6,8 and 10.
Essential 4: Invest in and maintain critical infrastructure that reduces risk, such as flood drainage, adjusted where needed to cope with climate change.
Essential 5: Assess the safety of all schools and health facilities and upgrade these as necessary.
Essential 6 Apply and enforce realistic, risk compliant building regulations and land use planning principles. Identify safe land for low-income citizens and develop upgrading of informal settlements, wherever feasible. **Essential 8;** Protect ecosystems and natural buffers to mitigate floods, storm surges and other hazards to which your city may be vulnerable. Adapt to climate change by building on good risk reduction practices.
Essential 10: After any disaster, ensure that the needs of the survivors are placed at the centre of reconstruction with support for them and their community organisations to design and help implement responses, including rebuilding homes and livelihoods.

EXAMPLES OF ADVANCES IN HFA PRIORITY 4

Many municipalities are addressing flood risk through infrastructure and engineering projects. Kisumu is among several cities that reported activities to improve the capacity of drains and control of flood waters.

In cities of low and middle-income nations, it is common for 20-50% of the population to live in informal settlements. The major challenges for resilience lie in developing the necessary basic infrastructure for water, sanitation and drainage, improving roads and supporting housing improvements. Upgrading infrastructure makes low-income settlements and cities more resilient to a range of natural and technological hazards including flooding and fires. Some cities address these issues though slum upgrading projects and programmes that seek to improve housing and infrastructure.

Kenya's national Slum Upgrading Programme is undertaking a pilot programme to upgrade informal settlements in flood-prone communities. Moshi's city council has partnered with the national government to initiate a small and informal settlement-upgrading programme to improve roads and drainage systems and provide waste management.

Other types of engineering solutions for increasing resilience include actions to reduce wind damage, construction of cyclone shelters and installation of fire hydrants. In Moshi, for example, fire hydrants have been installed around the city to respond to settlement fires.

The safety of schools and hospitals is a top priority for any resilient city. The 'One Million Safe Schools and Hospitals Campaign' sought to reinforce this concept by encouraging individuals, families, communities, organisations, governments, businesses and other entities to pledge to work for safer schools and hospitals[222]. This is part of the Resilient Cities Campaign and builds on the 2006-2007 Global Campaign on Safe Schools as well as on the 2008-2009 Global Campaign on Safe Hospitals. Many cities have committed to the principles enunciated in these Campaigns and several Campaign cities reported on activities to enhance the construction safety of schools and hospitals to ensure their continued operation during and after a disaster.

The WHO/ Pan-American Health Organization (PAHO) Hospital Safety Index (a low-cost tool to assess the ability of health facilities to remain functioning in emergency situations) was promoted during UNISDR's One Million Safe Schools and Hospitals Initiative.

Using customised 'safe hospitals' indicators, Cape Town, Makassar, Indonesia and Quito, Ecuador have all made progress on safe schools and hospitals. In Cape Town, for example, all 17 Environmental Health Offices and 18 of the city's 80 clinics have received a quality assurance rating from South Africa's Council for Health Services Accreditation. All schools undergo mandatory safety inspections by the Health and Safety Committee.

Several other cities report that building codes take into account the hazards risk. However, most cities report difficulties in enforcing and achieving compliance with the codes. In some

[222] www.safe-schools-hospitals.net

cases, there are insufficient human resources to enforce the codes; in other cases, legislation is weak. In Kisumu, Moshi and Narok, local councils have put codes and regulations in place, but all struggle to enforce them.

The incorporation of DRR into urban policy and practice is evident when principles of resilience and eco-sensitivity become part of a city's development plans. In South Africa, many cities that face water scarcity have taken measures to address the issue, such as Over strand's 'Working for Water' scheme, through which it has cleared invasive alien plants to improve water security and promote biodiversity and land productivity, while simultaneously addressing risk reduction, environmental protection and human livelihoods.

Many Campaign cities are focusing on environmental management measures to reduce risk, including the planting and rehabilitation of mangroves for coastal protection, reinforcement of sand dunes, planting trees to reduce wind damage to schools, ridding wetlands of encroaching species, afforestation to reduce flood risk and the protection of slopes to reduce the risk of landslides. Ecologically sensitive construction is also carried out, using natural materials to build structures that are hazard resilient.

Overstrand is integrating environmental sustainability and DRR as part of its efforts to address broader challenges of environmental sustainability and community development while building resilience. . Water scarcity is the primary risk in Overstrand and the local government's water demand management strategy includes a public awareness campaign, leak detection and repair, introducing restrictions on water use, and its 'Working for Water' Project, in which disadvantaged groups are trained and employed to clear invasive alien plant species. This Project promotes biological biodiversity, seeks to increase water security and offers livelihood opportunities. Within South Africa, the Working for Water Project has cleared more than one million hectares of invasive alien species and provided jobs and training to approximately 30,000 women, young people and persons with disabilities. The Overstrand water resource management programme is the product of a multi-stakeholder partnership between national and provincial water agencies, a regional biodiversity conservation institute and a group of community-based organisations. Key to the success and longevity of this programme and partnership are cross-scale and multi-sectoral contributions as well as the local government's role as facilitator.

Work structured around this Essential and that which has accumulated over the last 30 years, show important recovery and rebuilding activities are, both in terms of helping affected individuals and communities to take action as well as in terms of creating solutions that meet their needs.

Good recovery practices also have a direct link to reconstruction activities, whereby response becomes an opportunity to improve previous conditions. One way in which cities are doing this is through the linkage of recovery plans and policies to larger city development planning. Specifically, recovery plans can be linked to provincial development plans, with the planning department taking the lead.

Cities that provide financial assistance to disaster-affected people to help them recover require budgets that are flexible enough to support people's recovery in the way they deem to be most effective. There are other ways to assist those affected by disaster. Cape Town's Trauma Centre, for example, assists with psychosocial support for those impacted by disasters, although the city reports that this area needs more institutional and financial support.

Other cities have invested in systems to conduct detailed damage and needs assessments in order to support recovery strategies. The important point with regard to these activities is that during the recovery period, the needs of those affected or at risk are considered; that their priorities remain at the fore when developing plans and making decisions on budgets and spending; and those they have a seat at the table on cross-sector and multi-stakeholder boards. This is more easily said than done in any chaotic post-disaster situation, however, although some cities have made progress in this regard.

HFA PRIORITY 5: PREPAREDNESS

The Ten Essentials Essential related to HFA Priority 5 is
Essential 9: Install early warning systems and emergency management capacities in your city and hold regular public preparedness drills.

EXAMPLES OF ADVANCES IN HFA PRIORITY 5

There is wide recognition among cities that emergency preparedness, EWS and disaster response structures are vital for reducing the number of deaths and injuries caused by rapid-onset disasters. Most cities have taken some action in this area. Some maintain sophisticated, integrated monitoring and warning systems, with teams of professional and volunteer personnel trained in emergency response and with effective measures to reach the public with early warnings. Others have a more basic level of preparedness, consisting of simple forecasting and monitoring techniques and more limited capacity in reaching the public. In contrast, to these more basic systems, more sophisticated systems generally benefit from a central coordinating body, which oversees the integration of monitoring, warning and response into emergency preparedness.

Evacuation drills in Cape Town's schools are monitored and supported by the city's disaster risk management staff. While some cities have only recently begun holding drills and simulations, others have institutionalised the practice and hold them for a range of different activities.

Providing accessible emergency shelters is a key component of any evacuation strategy. These tend to double as schools or sports facilities during non-emergency periods. This is the case in Kisumu. Evacuation centres have been built next to three schools; another three are planned. Each facility includes water collection tanks and flood-resistant bore holes. Some cities maintain stockpiles of food, clothes, equipment and other relief supplies.

Risk communication is more challenging where there are only limited resources and telecommunications infrastructure and where there is currently no communication plan. In Moshi, if a disaster is imminent, the Council sends cars around the city to disseminate

warnings via loud speakers and broadcasts warnings on local radio stations.

6.1.3 Gaps, challenges and steps ahead for urban risk reduction

Campaign cities have identified core mechanisms and key components for urban risk reduction, while also recognising that measures and mechanisms for implementation must be contextually specific. Ultimately, how a city measures its own resilience must be locally driven. The key components of urban resilience are as follows:

- Administrative and institutional frameworks for resilience;
- Projects that address the specific risks facing respondents' cities (i.e., improved infrastructure, structural retrofitting, etc.) and;
- Risk reduction priorities that are specific to the city/risk. This third component suggests cooperation and planning among regional stakeholders is vital to risk reduction.

The core drivers for risk reduction in African cities were identified as follows:

- Provision of core social infrastructure and services upon which urban dwellers depend on a daily basis;
- Demands of citizens and civil society on local and national governments to provide affordable access to basic services;
- How these basic services ultimately protect the most vulnerable (those with limited incomes, illness or disabilities) from different hazards;
- Urban planning and its implementation as a tool for risk reduction; and
- Financing of DRR actions by specific budgets for DRR.

The participating partners and local governments in the Making Cities Resilient Campaign are working towards developing clear tools and methods to assist cities in measuring the effectiveness of DRR practices and linking these to other on-going initiatives related to resilient cities and urban performance indicators. The application of the Ten Essentials and the HFA Local Government Self-Assessment Tool (LGSAT) is a starting point, and cities are actively working on many of these aspects. In addition to planning and measuring specific DRR actions, it is also important to measure the accumulated risk and resilience in cities, as linked to basic services, which can provide an overall picture of how well a city can withstand and rebound from a disaster.

CHAPTER 7: INTERNATIONAL COOPERATION FOR DRR IN AFRICA

This chapter presents an overview of DRR initiatives implemented by international organisations in Africa. It focuses primarily on relevant UN agencies, but also includes information about the activities of a selection of NGOs, the IFRC, and financial institutions and donors. Although relevant entities were invited to update their DRR contributions in Africa using a standardised format, very few were able to do so in time for this version of the report. DRR partners who submitted updates for this report include:

- **United Nations and intergovernmental entities**: WFP, the International Organization for Migration (IOM), UNISDR, WHO,UNDP, UNEP, UN-Habitat, OCHA and WMO

- **IFRC and NGOs**: RC/RC, Action Against Hunger (ACF), Cooperazione Internazionale (COOPI), Vétérinaires Sans Frontières(VSF), Practical Action, Save the Children Action Aid, Oxfam GB, Plan International and World Vision

- **Financial institutions and donors:** MSB, Directorate General ECHO and GFDRR.

Earlier submissions from UNISDR partners are included where possible. These follow updates from those who provided submissions for this version of the report. Supplementary information for this chapter derives from literature found on-line. It is important to highlight that only partial information is provided here.

While UNISDR recognises the critical role played by many partners, including civil society organisations, it is beyond the scope of this report to present an entirely comprehensive analysis of all contributions made to the implementation of the HFA in Africa[223]. It is anticipated that an independent report by the Global Network of Civil Society Organisations for Disaster Reduction will map progress at the local level, including the provision of greater details of achievements by civil society organisations.

7.1 THE ROLE OF INTERNATIONALORGANISATIONS

Effective DRR, as an integral component of sustainable development, involves the cooperation and coordination of multiple stakeholders. In addition to states, which clearly have primary responsibility for their own economic and social development, including the integration of DRR measures, a broad range of actors at the international, regional, national and local levels is required in order to achieve DRR goals.

[223] *Views from the Frontline* is an independent review of civil society actions to implement the Hyogo Framework for Action, which aims to complement the biennial HFA monitoring process undertaken by states and sub-regional and regional organizations.

Box 23: **Role of international organizations in the implementation of the HFA**

The HFA calls upon international organizations, including organizations of the United Nations system and international financial institutions, to undertake the following tasks within their mandates, priorities and resources:

- Engage fully in supporting and implementing the International Strategy for Disaster Reduction…by encouraging stronger linkages, coherence and integration of disaster risk reduction elements into humanitarian and sustainable development fields.
- Strengthen the overall capacity of the United Nations system to assist disaster-prone developing countries in disaster risk reduction...and define and implement appropriate measures for regular assessment of progress.
- Identify relevant actions to assist disaster-prone countries in the implementation of this Framework for Action…and ensure that adequate funding is allocated for their implementation.
- Assist disaster-prone countries to set up strategies and plans of action and programmes for disaster risk reduction and to develop their institutional and technical capacities in the field of disaster risk reduction.
- Integrate actions in support of the implementation of this Framework into relevant coordination mechanisms, and integrate disaster risk reduction considerations into development assistance frameworks.
- Cooperate to support globally consistent data collection and forecasting on natural hazards, vulnerabilities, risks and disaster impacts at all scales.
- Support states with the provision of appropriate, timely and well-coordinated international relief assistance...and provide this assistance with a view to reducing risk and vulnerability.
- Strengthen the international mechanisms with a view to supporting disaster stricken states in the transition phase towards

The HFA states clearly that concerted international cooperation is required to provide the knowledge, capacities and incentives for DRR. It calls upon states and regional and international organisations, including the United Nations and international financial institutions, to integrate DRR considerations into their sustainable development policy, planning and programming actions, in the ways described in Box 23. Furthermore, the HFA recognises the contributions required of civil society, including volunteers and community-based organisations as well as the scientific community and the private sector in the implementation of DRR.

The ARSDRR states that in order to accomplish the agreed goals, a participatory approach is required of all stakeholders, including the UN, international development partners, civil society organisations and the private sector.

Considering the different mandates, resources and expertise of the international organisations engaged, or required to be engaged, in DRR, a strategic approach is critical for success.

7.2 Progress by United Nations agencies

Following the International Decade for Disaster Reduction (1990-1999) and the 2002 World Summit for Sustainable Development (Johannesburg), a heightened awareness of the relationship between sustainable development and DRR began to influence the policies, planning and delivery of programmes by various UN agencies. In 2003, UNISDR published Living with Risk: A Global Review of Disaster Reduction activities, and in 2004, UNDP published Reducing Disaster

Risk: A Challenge for Development, thereby clearly stating the contextual issues.

From 2005 onwards, UN agencies began to scale up their investment in DRR in order to implement the HFA. In 2008, the first International Strategy for Disaster Reduction (ISDR) Global Level Joint Work Programme was concluded, which included contributions by all relevant UN agencies as well as those by other partners. In 2009-2010, UNDP Crisis and Prevention and Recovery (BCPR) produced a Donor Strategy for Disaster Reduction and Recovery, which outlines the agency's global, regional and national plans.

The agencies of the UN highlighted in this chapter have provided information about their recent and current programmes, the results of which provide an initial, albeit partial picture of the geographic scope and programme focus of these initiatives. Other UN agencies are active in DRR and their efforts were also included based on accessible information from the Internet.

7.2.1 Geographic foci

According to an earlier mapping process, national-level DRR initiatives by UN agencies were being implemented in nearly all countries of Africa.

The majority of UNISDR's services and products, including events, publications and training, are available to all countries in the region. Direct support from UNISDR is provided to selected countries within specific, donor-funded projects. UNISDR's engagement in Africa is summarised in Box 24.

UNDP prioritises DRR efforts in 60 high-risk countries, 14 of which are In Africa: Senegal, Sierra Leone, Ghana, Chad, DRC, Uganda, Kenya, Somalia, Burundi, Malawi, Mozambique, Madagascar, Swaziland and Lesotho.

WFP's DRR work centres on 16 priority countries in Africa whereas the geographical focus of IOM's DRR work is in Eastern/ Horn of Africa and IGAD countries (Kenya, Ethiopia, Uganda and Somalia).

WMO's work plan for 2012-2015 is approved to coordinate DRR and Climate Adaptation with national and regional projects with partners in more than 20 countries worldwide, none of which are in the Africa region[224].

Box 24: **UNISDR in Africa**

UNISDR established its Regional Office for Africa, based in Nairobi, in October 2002. UNISDR has representation through DRR Advisors in five sub-regions (Horn of Africa, East Africa, West Africa, Central Africa and South Africa). In support of the AU, UNISDR has representatives in IGAD, EAC, ECOWAS, ECCAS and SADC respectively.

UNISDR's main areas of activity in Africa are supporting **policy and strategy development**; **advocating and raising awareness** of DRR; **promoting information-sharing and knowledge exchange**; as well as **forging networks, partnerships and coordination** in mainstreaming DRR into development.

The United Nations Office for the Coordination of Humanitarian Affairs (OCHA) maintains regional offices in Johannesburg, Dakar, Nairobi and Cairo and country offices in at least 13 other African countries.

[224] http://www.wmo.int/pages/prog/drr/documents/2012.07.05-WMODRRWorkPlan2012-2015.pdf

7.2.2 Programmatic foci

UN agencies have contributed to all of the HFA Priorities through a variety of projects as shown in Table 34.

OCHA and UNDP support national governments through the strengthening of institutional and legislative frameworks for DRR, participating in risk assessments and contributing to public awareness campaigns.

OCHA's preparedness activities are aimed at creating favourable conditions for a successful emergency response. As the coordinator of international humanitarian response, OCHA has three emergency preparedness responsibilities:

- Internal response capacity – strengthening the capability of the humanitarian coordination system's in-country members to make a coordinated emergency response;
- Strengthening the capacity of national authorities and regional organisations to request or help mobilize international humanitarian assistance; and
- Effectively utilising the in-country humanitarian coordination system.

Through BCPR, UNDP focuses particularly on mainstreaming DRR into key national development plans to address underlying risk factors. UNDP's DRR foci include assessment, disaster loss databases, climate risk management, governance, capacity development, urban risk and gender.

WFP published a Policy[225] on Disaster Risk Reduction and Management that was approved by their Executive Board in 2011 and which makes DRR a central priority. In Africa, WFP has pioneered and supported many DRR innovations such as the Rural Resilience Initiative (R4), the Livelihoods Early Assessment and Protection (LEAP) project and the joint WFP/IFAD Weather Risk Management Facility (WRMF[226]).

UN-Habitat also contributes to several of the Priorities of the HFA and focuses particularly on mainstreaming DRR into national and sectoral development plans. It directly supports national programmes to address vulnerabilities associated with environmental health. Its strongest DRR portfolios involve hazard resistant shelters, urban risk and climate change. UN-Habitat has also prepared a Cities and Climate Change Initiative (CCCI) 2012-2025[227]designed specifically for Africa. While the CCCI originally targeted seven cities in Africa (Saint Louis, Bobo Dioulasso, Kigali, Kampala, Mombasa, Walvis Bay and Maputo) (since 2008), it plans to expand to more cities in all of the sub-regions. UN-Habitat is also in the initial phases of setting up a sub-regional Centre for Disaster Mitigation and Sustainable Recovery (DIMSUR).

UNEP focuses its DRR efforts on global advocacy, capacity development, climate change and knowledge production. It is a core founder of the Partnership for Environment and Disaster Risk Reduction (PEDRR[228]), a global partnership of 14 organisations

[225]http://documents.wfp.org/stellent/groups/public/documents/newsroom/wfp247914.pdf
[226]http://documents.wfp.org/stellent/groups/public/documents/communications/wfp242409.pdf
[227]http://www.unhabitat.org/downloads/docs/10401_1_594147.pdf
[228] http://www.pedrr.net/

that seek to influence policy and enhance implementation in environmental management for DRR and CCA. Together with its partners, UNEP has developed a national training course on Ecosystem-based Disaster Risk Reduction, specifically targeting national and local government sectoral and planning agencies. Biennially, UNEP supports the Africa Ministerial Conference on Environment (AMCEN). DRR and CCA issues are part of the agenda. UNEP is also investing in scenario-analysis to underpin a substantial regional programme of pilot projects for CCA.

WMO is heavily focused on providing services to national meteorological institutions to improve risk identification, assessment and knowledge management. Its DRR portfolio also includes hazard early warning and risk financing.

UNICEF[229] contributes to DRR through a variety of support to National Platforms and through interventions that address gender, children, basic education, water, sanitation and nutrition (WASH) and nutrition.

UNISDR, through the Regional Office for Africa, is focused primarily on promoting knowledge-sharing, strategic planning and coordination among DRR stakeholders. Activities typically range from providing strategic and technical advice to RECs and the AU, to supporting the creation and strengthening of National Platforms for DRR. This subject report on the status of DRR in Africa has been undertaken by UNISDR to monitor progress, identify areas for investment by all actors, and to generate further action in Africa. UNISDR also leads the Inter-Agency Group for DRR, a forum for UN agencies and DRR partners to regularly meet and ensure consistency and coordination of actions.

[229] http://www.unicef.org/files/DDR_final.pdf

7.2.3 Partnerships and interlocutors

UN agencies customarily engage directly with their counterpart governmental institutions at the national and sub-national levels. For example, WMO partners with national meteorological and hydrological institutions, while UNISDR engages with DRR focal points in designated governmental departments and other DRR institutions. UNDP has employed full-time national disaster reduction advisors in Madagascar, Malawi and Mozambique, who provide technical advice and support to national governments.

UNDP supports 'Delivering as One' in Risk Assessment through their GRIP effort, leading an inter-agency partnership with WHO, UNICEF, UN-Habitat, the United Nations High Commissioner for Refugees(UNHCR), UNISDR and IFRC. Through its CCCI effort, UN-Habitat partners with UNDP, UNISDR, FAO and the World Bank.

Efforts are also made to coordinate UN support at the national level through initiatives such as the joint UN programme in Mozambique, although such are not yet in place in the majority of countries of the region.

At the sub-regional level, several UN agencies provide support to the RECs as described in Chapter 4 and summarised below:

- UNISDR currently provides DRR advisory services to ECOWAS and ECCAS as well as to the AU.
- UNDP has posted a regional DRR advisor in Ethiopia and a second one in Senegal. WFP collaborates with institutions such as the CILSS and SADC to support the development of EWS in Africa. WFP also participates in regional food security EWS such as the Greater Horn of Africa Food Security Outlook processes.
- IOM supports IGAD states and Horn of Africa countries to enforce cross-border mobility, related to the movement of pastoral populations.

At the continental level, WFP is working with the AU and the World Bank to develop the African Risk Capacity (ARC), an African-owned, continental index-based weather risk insurance pool and early response mechanism.

Table 34DRR activities of UN agencies working in Africa: by HFA Priorities for Action (in alphabetical order of most recent submissions)

Entity	HFA Priority 1 and ARSDRR Obj. 1 and 5: *National Priority/Political Commitment and Governance*	HFA Priority 2 and ARSDRR Obj.2: *Monitoring Disaster Risks and EWS*	HFA Priority 3 and ARSDRR Obj. 3: *Knowledge, Innovation, Education*	HFA Priority 4 and ARSDRR Obj. 4: *Reduce underlying risk factors*	HFA Priority 5 and ARSDRR Obj. 6: *Preparedness for effective response*	General
IOM (2013)	• Mainstreams cross border policies and support of pastoral mobility	• Technical support on EWS as part of the IOM Resilience Strategy	• Awareness raising on CCA in support of pastoral resilience	• Livelihood support in conjunction with pastoralist resilience	• Community organisation and training of local authorities inarid and semi-arid lands (ASAL) in addition to strengthening border facilities and staff capacities	• Promotes cross-border mobility with resilience building (e.g., Resilience strategy on place for the GHA)
UNISDR (2013)	• Supports the establishment or strengthening of National Platforms for DRR • Holds regional meetings to promote coordination, discussion, collaboration and resource mobilisation • Leads the Inter-Agency Group on DRR •	• Supported the production of Kenya's multi-hazard 'Training Package on Natural Hazards and Early Warning for Training of Trainers230''. • Advisory support to countries on HFA monitoring tools • Supports Africa-wide HFA monitoring and assesses results •	• Produced multiple series of educational materials (see Chapter 3) • Dissemination of publications, tools and manuals, and maintenance of a regional resource centre • Creation of South-South partnerships for learning • Supports the development of data loss databases	• Serves as secretariat to the Africa Working Group on DRR • Coordinates regional consultation on the Post-2015 framework. • DRR legislation initiated in the RECs and the countries	• Convenes multi - stakeholder platforms (regional) • Member of steering committee of IGAD focused on drought prevention and response readiness	• Strategic and technical support to RECs • Regional publications on the status of DRR and selected themes.
WFP (2013)	• Provides policy support to governments, in the form of EWS , contingency planning and resilience building	• Supports over 15 African governments in the implementation of advanced food security monitoring systems to track food security, nutrition, market indicators and natural hazards to provide effective analysis to support disaster preparedness, prevention and response. • Developed innovative	• Enhances community capacity to manage climate-related risks through food-for-training activities (i.e. DRR techniques and EWS). • Developed (with SDC and partners) the Resilience Global Knowledge Platform that enables practitioners, policy-makers and researchers to share knowledge	• Implements asset creation activities (i.e. flood protection infrastructure and land rehabilitation). • Supports the development of social protection mechanisms (e.g. in partnership with FAO, Uganda established the Karamoja Productive Assets Programme using food assistance to meet	• Transfers knowledge and capacities to partner governments and leads the logistics and emergency telecommunications cluster – a key component of the strategy to better prepare for disasters.	

[230] www.unisdr.org/files/26445_trainingpackageonnaturalhazardslow.pdf

Entity	HFA Priority 1 and ARSDRR Obj. 1 and 5: *National Priority/Political Commitment and Governance*	HFA Priority 2 and ARSDRR Obj.2: *Monitoring Disaster Risks and EWS*	HFA Priority 3 and ARSDRR Obj. 3: *Knowledge, Innovation, Education*	HFA Priority 4 and ARSDRR Obj. 4: *Reduce underlying risk factors*	HFA Priority 5 and ARSDRR Obj. 6: *Preparedness for effective response*	General
		EWS (e.g., Ethiopia LEAP)	and experiences, disseminate innovations and facilitate learning.	seasonal needs while building productive assets (i.e., new rainwater harvesting structures)) • Tests innovative methods to manage risk through the R4 Rural Resilience Initiative, an approach that links safety nets to micro-insurance, credit and savings.		
WHO (2013)	• Regional health strategy for DRM developed, approved and implemented by Health Ministers • Assessment of capacities to undertake DRM (complete in 3 countries) • Integration of DRM into national health policies and strategic plans • National and regional health sector disaster management committees established	• Guidelines for conducting health sector risk analysis and mapping developed (to be field tested in Tanzania in 2013) • Early warning for epidemic diseases and nutrition established (Integrated Disease Surveillance and Response) • Community-based EWS established	• Health DRM education curriculum developed for pre, in and post-service • Technical support being provided to academic institutions to plan and facilitate short courses on public health in emergencies • On-going training of health workers on health DRM	• Developed framework for post-conflict/disaster recovery of the health system • Hospital safety index adapted for use in the African region	• African Public Health Emergency Fund (APHEF) established (several countries have established budget lines for emergencies) • Health surge capacity through training of regional roster experts • Establishment of strategic stocks of medicines and supplies in 4 countries • Integrated all-health hazard disaster management plans • Hazard specific contingency plans	• National and regional health sector disaster management committees established as part of national disaster management platform • Regional strategy is aimed at 46 countries • Road map (strategic plan) for strengthening health DRM developed for Sierra Leone, Tanzania and Uganda
UNDP (2009)	• Accompaniment to define responsibilities for DRR among governmental institutions and civil society organisations • Strengthening of legal and	• Support to governmental institutions for DRR to improve risk-monitoring and information-sharing • Risk assessment	• DRR education and mobilisation of school children	• Support to governments to mainstream DRR into national poverty reduction plans • Support to	• Hazard-specific preparedness planning • Country-specific contingency planning at national and district levels	• Support for inter-agency UN coordination

Entity	HFA Priority 1 and ARSDRR Obj. 1 and 5: *National Priority/Political Commitment and Governance*	HFA Priority 2 and ARSDRR Obj.2: *Monitoring Disaster Risks and EWS*	HFA Priority 3 and ARSDRR Obj. 3: *Knowledge, Innovation, Education*	HFA Priority 4 and ARSDRR Obj. 4: *Reduce underlying risk factors*	HFA Priority 5 and ARSDRR Obj. 6: *Preparedness for effective response*	General
	institutional frameworks for DRR and environmental protection	• Hazard-specific information management		governments to implement legislation for environmental protection.		
UNEP (2009)	• Champions environmental policy development	• Scenarioanalysis in relation to climate change	• Conflict early warning and response mechanism (CEWARN) project	• Designing and piloting of CCA projects		
UN-Habitat (2009)	• Development of policy and norms for DRR • Capacity-building for all levels of government	• Development of EWS and inter-sectoral information management systems. • Capacity building to improve collection of data on vulnerability. •	• Youth forum for DRR/risk innovators and communicators	• Mainstreams disasters risks and vulnerability reduction into national development plans. • Integration of related CCA issues into DRR and development plans. • Improvements to WASH systems in urban areas. • Public health promotion.	• Urban Risk Reduction programmes	
WMO (2009)[231]	• Generation of IPCC policy papers	• Climate observation and regional modelling • Regional Climate Outlook Forums • Development of tools and products for hazard-specific warnings • Capacity building of national hydrological services • Severe weather forecasting • Improvements to marine/coastal EWS	• Awareness-raising on impact of climate change on water resources • Climate science, detection and attribution	• Implementation of flood management plans		

[231] For 2012-15 work plan, no focus is planned for Africa http://www.wmo.int/pages/prog/drr/documents/2012.07.05-WMODRRWorkPlan2012-2015.pdf

7.2.4 Approach

As this report shows, the UN and other intergovernmental agencies have developed a wide variety of approaches and tools for disaster risk reduction.

UNDP assists national partners in high-risk countries to identify the factors that lead to disasters through GRIP and to incorporate DRR into national development plans and programmes through its Global Mainstreaming Initiative. UNDP builds resilience to conflicts and disasters, helps countries prevent armed conflict, alleviate the risk and effects of disasters from natural hazards and build back better and stronger when crises occur. When a crisis strikes, UNDP ensures that the humanitarian response focuses on the immediate lifesaving needs of a population but also on works towards longer-term development objectives. UNDP's approach is called *early recovery*.

In Mozambique, for example, GRIP has supported the national disaster management institution to establish a National Disaster Loss Observatory and a corresponding National Risk Information System. It has also provided assistance and access to financial support to compile a National Risk Atlas and develop a simplified tool for assessing earthquake risk in Maputo. These elements have enabled Mozambique to build a strong EWS to protect people and assets from disasters.

In countries that are subject to recurrent crises, WFP bases interventions on a Comprehensive Food Security and Vulnerability Analysis (CFSVA), which enables the agency and other actors to identify where the most vulnerable people are located and what causes that vulnerability. In some contexts, WFP implements a Food for Assets programme, which enables the agency to respond to current food and nutrition needs while contributing simultaneously to reducing future disaster risk through projects such as irrigation, terracing, soil and water conservation. WFP has recently incorporated the use and development of innovative early warning and risk financing tools in its work.

In Ethiopia, WFP's Food for Assets programme targets food-insecure communities in degraded, fragile ecosystems that are prone to drought-related food crises. It uses food as an incentive for labour to help regenerate vegetative cover, which increases soil water capture and helps reduce the risk of drought and flooding.

WFP has also developed a set of principles to guide its work on DRR (see Box 25 below).

7.3 Progress by International NGOs and the RC/RC Movement

In recent years, awareness of the importance of DRR has increased significantly among international non-governmental organisations (INGOs) and the Red Cross & Red Crescent (RC/RC) Movement working in the fields of development and humanitarian aid.

Since the 1990s, the IFRC and major civil society organisations (CSOs[232]) such as ActionAid and IFRC have advocated for the mainstreaming of DRR into development and humanitarian programmes. More recently, and particularly since the endorsement of the HFA in 2005, many others have begun to make changes to the way in which they design, deliver and evaluate programmes, in order to better integrate risk analysis and measures to reduce disaster risks.

Box 25 WFP Guiding Principles

1. Development activities and emergency interventions must be linked to each other in countries prone to recurrent natural disasters.
2. Disaster prevention, preparedness, contingency planning and responses need to be integral parts of the United Nations Development Assistance Framework (UNDAF).
3. Disaster mitigation depends on structural and non-structural solutions in several sectors at various levels of national economies.
4. Mitigation should be a principal objective of projects in disaster-prone areas.
5. Targeting must focus on those who cannot cope with recurrent disasters – not just on those who live in disaster-prone areas.
6. Recognition that it is important to understand gender relations in the context of natural disasters in disaster-mitigation strategies.
7. Preservation of livelihoods as a central goal of disaster-mitigation measures.

Source WFP website

Entire groups of CSOs have joined forces in DRR and related formal or informal coalitions, including the following:

- The **Global Network of Civil Society Organisations for Disaster Reduction**[233] is a major international network of NGOs and not-for-profit organisations committed to working together to improve the lives of people affected by disasters worldwide. Managed by Tear fund in the UK, the Network produces the influential 'Views from the Frontline' (VFL) – a participatory, multi-stakeholder engagement process designed to monitor, review and report on critical aspects of 'local governance' considered essential to building disaster resilient communities.

- The **Emergency Capacity Building Project** (ECB)[234], comprised of CARE, Catholic Relief Services (CRS), Mercy Corps, Oxfam and World Vision, provides a community of practice through which DRR technical experts can share their learning, programme challenges and experience in the field. ECB also explores risk reduction models that help communities reduce their vulnerability to disasters and support approaches for analysing risk.

- Five major NGOs funded by DFID– ActionAid, Christian Aid, Practical Action, Plan and Tear fund – became the **DFID Disaster Risk Reduction NGO Inter-Agency Group** (2005-10). A joint evaluation[235] produced the following concluding observations: 'appropriate processes and relationships are fundamental to DRR.NGOs need to explore and understand community structures (especially for targeting) and 'strong integration between DRR activities and more day-to-day concerns,

[232]The term CSO is employed to capture both NGO and the RC/RC movement entities.

[233]http://www.globalnetwork-dr.org
[234]http://www.ecbproject.org/risk-reduction/risk-reduction
[235]http://community.eldis.org/?233@@.59eb15c6!enclosure=.59eb15c7&ad=1

such as livelihoods, can reinforce grassroots group or organisational structures and help to secure commitment'. These observations are especially relevant for the African context.

For the time being, this report imparts information only as submitted by civil society entities to UNISDR(ACF, COOPI, IFRC and Practical Action, VSF, Save the Children (SCF) or through submissions for earlier editions (ActionAid, CARE, World Vision) of the Africa DRR Status Report.

7.3.1 Geographic foci

IFRC, through the RC/RC National Societies they support, has the largest coverage of DRR efforts on the continent. ActionAid, Oxfam GB and World Vision are currently active in DRR

in most regions of Africa, although to a lesser extent in countries where there is political or civil insecurity. Oxfam GB has developed a DRR policy that it uses to guide the development of its DRR work.

Within this non-representative sample, there appears to be a slight trend towards DRR focus on Anglophone countries in Africa (see Table 35).

Table 35: Geography of selected civil society DRR efforts

Entity	Location of DRR projects and/or Priorities in Africa
ACF	Uganda (described in Table 7.3 below), but also: Burkina Faso, CAR, Chad, Djibouti, DRC, Ethiopia, Guinea, Côte d'Ivoire, Kenya, Liberia, Mali, Mauritania, Niger, Nigeria, Sierra Leone, Somalia, South Sudan, Swaziland, Zimbabwe
ActionAid	Kenya, Ghana, Malawi, Zambia
CARE	Angola, Ethiopia, Kenya, Madagascar, Malawi, Mozambique, South Africa, South Sudan, Zambia, Zimbabwe
COOPI	Kenya, Ethiopia, Malawi (described in Table 7.3 below), but also: Chad, Madagascar, Morocco, Niger, CAR, DRC, Senegal, Sierra Leone, Somalia, Sudan, Uganda
IFRC	Burkina Faso, Côte d'Ivoire, Gambia, Guinea, Guinea Bissau, Liberia, Mauritania, Niger, Nigeria, Senegal
Oxfam GB	Ethiopia, Kenya, Mozambique, Niger, Uganda, Zambia
Practical Action	Kenya, Sudan, Zimbabwe
Save the Children	Ethiopia, Somalia, Kenya
VSF	Kenya, Uganda, South Sudan
World Vision	Ethiopia, Ghana, Lesotho

7.3.2 Programmatic foci

The DRR initiatives of these organisations encompass a wide range of activities that correspond to all of the HFA Priorities for Action (as shown in Table 36). In most cases, each project or programme in a specific location addresses multiple Priorities for Action.

In specific regard to HFA Priority 4, reducing underlying risk factors, the types of activities contributing to the achievement of Priority4 depend on the mandate and competencies of each organisation. For this reason, Oxfam GB tends to implement activities in the areas of public health and livelihoods, whereas ActionAid and World Vision include activities to build or retrofit school facilities.

7.3.3 Partnerships and interlocutors

As can also be seen from the table of activities, INGOs and the IFRC tend to use local structures and institutions as

entry points to the community. ActionAid and World Vision have designed programmes that work through schools and school children to reach the wider community, whereas Oxfam GB and CARE tend to work through community structures and community-based organisations.

INGOs are increasingly anchoring their DRR work directly in national government efforts, such as with SCF or CARE. The IFRC has a formally recognised auxiliary role to support national governments - one that positions it favourably to promote DRR as a priority. The IFRC and all of the INGOs included in this report interact with government institutions, either through direct partnerships, or by supporting and mobilising community representatives to engage with relevant authorities.

Beyond the level of other civil societies, the partnership and approach of IFRC and the RC/RC movement capitalises on volunteering by empowering volunteers from communities to be DRR leaders and champions.

7.3.4 Approach

NGOs and civil society organisations are world renowned for championing people-centred and community-based DRR. From the community-level to the national-level, INGOs use a similar methodology based on participatory risk analysis to orientate their DRR initiatives and programmes. Participatory risk analysis is a systematic process involving communities, local authorities and other stakeholders in the identification and analysis of local hazards, vulnerabilities and traditional capacities or coping strategies. Based on this analysis, the stakeholders agree on a plan of action to address priority risks in their communities.

Table 36: DRR activities of selected international NGOs / RC/RC entities working in Africa (in order of most recent submissions)

Entity (date of submission)	**HFA Priority 1 and ARSDRR Obj. 1 and 5:** ***National Priority/Political Commitment and Governance***	**HFA Priority 2 and ARSDRR Obj.2:** ***Monitoring Disaster Risks and EWS***	**HFA Priority 3 and ARSDRR Obj. 3:** ***Knowledge, Innovation, Education***	**HFA Priority 4 and ARSDRR Obj. 4:** ***Reduce risk factors***	**HFA Priority 5 and ARSDRR Obj. 6:** ***Preparedness for effective response***
SCF (2013)	• Working with local governments on consultative /participatory governance processes • Better governance related to natural resource management (NRM) and land use • Working closely with the Disaster Risk Management and Food Security Sector (DRMFSS) in Ethiopia • Supported the development of by-laws and ordinances against tree cutting under NRM.	• EWS implementation • Risk identification with children in IDP camps • Children-based DRR/CCA plan of actions developed for schools in Somaliland, Somalia, Kenya and Ethiopia • Participation of children in risk identification and action	• Supported Ministries of Education and Environment in development of DRR handbook for school children • Learning and advocacy on DRR and resilience of people of arid/semi-arid lands • DRR education and awareness of staff, communities and children in IDP camps • Child-based DRR/CCA plan of actions developed for 10 schools in Burao, Somalia • Workshop held for the Food Security Working Group collaboration with partners such as FAO, CARE and UNDP • Training manual for DRR developed and resource teachers trained using the model in Mandera and Habaswein, Kenya	• Increased focus on resilience and integrated programming, via food security/ water • Considers multiple risk factors and components of adaptive capacity • Watershed assessment in Burao in Somalia and Wajir, Kenya • Landscape planning with local authorities in Wajir • NRM programme conducted by engaging school children and communities to plant trees. • Micro-irrigation and flood control services supported	• Preparedness included as part of EW component with inbuilt response (crisis modifier) • DRR structures have been put in place for children at school and community-based management teams to respond to disaster risks • Preparedness plans have been developed and operationalized through children's clubs and community management committee in Burao, Somalia • Regional coordination of evidence meetings to promote coordination, discussion, collaboration and resource mobilisation
ACF (2013)	• Advocate for integrated NRM within policy forums and region-wide learning groups. • Build institutional capacity to develop and implement NRM plans. • Strengthen multi-stakeholder dialogue between different natural resource users and facilitate exchange across sectors and levels.		• Promote understanding of natural resources and vulnerability • Set up a monitoring network to collect and analyse data related to hydrogeology, environment and socio-economic activities that can guide NRM • Documentation and dissemination of best practices and lessons from projects to main stakeholders. • Support learning groups and policy advocacy.	• Develop integrated NRM plans. • Implement ecosystem based priority actions within management plans that will strengthen social and ecological resilience.	

Entity (date of submission)	**HFA Priority 1 and ARSDRR Obj. 1 and 5:** ***National Priority/Political Commitment and Governance***	**HFA Priority 2 and ARSDRR Obj.2:** ***Monitoring Disaster Risks and EWS***	**HFA Priority 3 and ARSDRR Obj. 3:** ***Knowledge, Innovation, Education***	**HFA Priority 4 and ARSDRR Obj. 4:** ***Reduce risk factors***	**HFA Priority 5 and ARSDRR Obj. 6:** ***Preparedness for effective response***
COOPI (2013)		• Train communities in risk assessment, analysis and integrating the community contingency plans with traditional and conventional EWS	• Share experiences and lessons learned on community-based DRR with practitioners through exchange visits, local for a and national and regional workshops	• Support local community action plans that reduce drought risks, especially strategic water sources. • Support communities to maintain livelihood assets, especially livestock prior and during droughts for food security (animal health and productivity improvement)	• Linking community contingency plans to local and national level contingency planning mechanisms • Ensuring that communities' contingency plans qualify for emergency funding
IFRC (2013)	• Allocating 10% of all emergency appeal to DRR in Africa (more than 35 emergency appeals)	• Support to National Societies in risk assessment. Urban risk assessments planned in 7 countries for 2013. • Mapping of 48 African National Societies' capacity and vulnerability conducted • An African disaster management framework developed • Data is being collected through a Resource Management System (RMS). A coordinator is in place in Nairobi for 2013 • Forecasting and EWS are being disseminated • MoU was also signed with ACMAD	• Regional DRR framework and program developed for the Indian Ocean region (with IOC) • Community-based DRR Trainings conducted • Public Awareness campaigns launched in Southern Africa region (for food security) and in Eastern Africa region (for DRR) • Guiding principles in CEWS produced and disseminated • CEWS Training conducted in Sierra Leone, Liberia and Gambia	• Resilience DRR study to agree on key characteristics and for a resilient community in dry regions • MoUs with several public and private partners (Coca Cola, Microsoft, AfDB, IGAD, CILSS, etc). • Disaster law research in several African countries (Uganda, Madagascar, etc)	• Disaster management capacities built linked to request from AU to train RECs • Legal research for all AU States. • Regional DRR framework developed for Indian Ocean / East Africa, Central Africa in 2013. • CPs developed and implemented • New practical CP guidelines being rolled out • Global emergency funds are in place in Geneva (Africa is using more than 40% of these funds through Disaster Relief Emergency Funds operation – more than 30 operations are opened) • Thousands of volunteers are deployed
Practical Action (2013)	• Advise and advocate for governments' policy on DRR and livelihood centred approaches • Mobilise communities to engage in national planning processes • Advocate for	• Capacity building in planning, extension and data collection/risk monitoring • Participatory risk analysis and mapping • Develop community level EWS • Promote traditional	• Raise awareness on climate change and risk • Train civil society and communities on DRR • Develop educational DRR materials • Produce DRR materials for resilient livelihoods	• Design and pilot CCA projects • Integrate CCA into DRR • Improve WASH systems in urban areas • Link food security and disaster resilient livelihoods	• Promote community level risk mapping and DRR planning and preparedness

Entity (date of submission)	**HFA Priority 1 and ARSDRR Obj. 1 and 5:** ***National Priority/Political Commitment and Governance***	**HFA Priority 2 and ARSDRR Obj.2:** ***Monitoring Disaster Risks and EWS***	**HFA Priority 3 and ARSDRR Obj. 3:** ***Knowledge, Innovation, Education***	**HFA Priority 4 and ARSDRR Obj. 4:** ***Reduce risk factors***	**HFA Priority 5 and ARSDRR Obj. 6:** ***Preparedness for effective response***
	community-based adaptation • Support to government to mainstream DRR into national poverty reduction plans	emergency management • Integrate knowledge of changing risks and uncertainties into planning, policy and programme design			
VSF (2013)	• Mobilise communities to identify and plan for DRR and advocate for increased government allocation of resources	• Participatory risk analysis with communities • Support for local EWS	Community capacity building on DRR planning	• Protect community livelihoods, support for diversification of livelihoods, NRM	
ActionAid (2009)	• Community organisation and mobilisation to advocate government to prioritise DRR	• Participatory risk analysis with communities	• Public awareness of risk and DRR through school children and schools • Training for civil society and government staff • Development of educational materials and curriculum	• Retro-fitting of school buildings • Construction of schools in safe locations	• Community organisation and mobilisation to implement preparedness measures • Disaster responses with DRR perspective
CARE (2009)		• Development of community-level EWS		• Mainstreaming of DRR into livelihoods and NRM programmes • Social safety nets	• Community-level preparedness based on EWS
Oxfam GB (2009)	• Community organisation and mobilisation to advocate to government to prioritise DRR	• Participatory risk analysis with communities • Support for local EWS	• Outreach to sectors of community to raise risk awareness	• Support for development of disaster-resilient livelihoods; protection of livelihoods during and post hazard events • Social safety nets and advocacy for social protection policies • Improvements to water and sanitation services. • Public health promotion	• Community organisation and mobilisation for preparedness measures • Disaster responses with DRR perspective
World Vision (2009)		• Development of local EWS	• Development of educational materials and curriculum. • Public awareness of risk through schoolchildren and schools	• Construction of safe school and community environment • Livelihood diversification and mainstreaming of DRR into livelihoods strategies	• Community organisation and mobilisation for preparedness measures

7.4 Progress by Financial Institutions and Donors

This section highlights the priorities, activities and initiatives in the field of DRR by a number of major donors in Africa, among them: MSB, USAID and OFDA, ECHO and the World Bank's GFDRR. This section also provides examples of potential funding available to Africa and the organisations working therein.

7.4.1 Swedish Civil Contingencies Agency (MSB)

The MSB has become a main player in DRR across Africa. From Senegal to Mozambique, it has contributed to activities in at least four of the five HFA Priorities since 2007. In Liberia, Sierra Leone and Nigeria, MSB was instrumental in building capacity among National RC/RC Societies and their targeted communities, with a particular focus on CEWS. In West Africa (Dakar), MSB collaborates with IFRC and UNICEF, and with the respective National Disaster Management Offices in Botswana, Kenya and Mozambique. See Table 37 for more information on MSB programming.

7.4.2 USAID/OFDA

Under USAID's Bureau for Democracy, Conflict and Humanitarian Assistance, DRM and DRR are mandated to OFDA. OFDA's approach to DRR recognises the central role of national and local entities as disaster managers and seeks to strengthen their ability to respond, emphasising community-based initiatives. OFDA helps establish early warning networks, trains schoolchildren on what to do when an earthquake strikes, and teaches local emergency personnel how to conduct search-and-rescue.

During fiscal year 2011 alone, OFDA invested US $123,988,366 on DRR efforts in Africa. This figure represents 47% of USAID/OFDA's global DRR investment with the vast majority of that sum invested in Eastern and Southern Africa.

7.4.3 European Commission Directorate General for Humanitarian Aid and Civil Protection(ECHO)

The European Commission Directorate General for Humanitarian Aid and Civil Protection (ECHO) provides rapid and effective support to the victims of disasters beyond the EU's borders. The importance of disaster preparedness is clearly recognised in ECHO's mandate and in the European Consensus on Humanitarian Aid adopted in 2007. In 1996, ECHO launched its Disaster Preparedness ECHO programme (DIPECHO) – the principal component of ECHO's contribution to global DRR efforts. ECHO's involvement in DRR has increased significantly in the last decade both in terms of funding as well as expansion of activities (inclusion of slow onset disasters, epidemic prevention, etc.).

The 2003 'Overall Evaluation of ECHO's Strategic Orientation to Disaster Reduction[236]' recommended that, due to chronic structural origins of drought (the most common African hazard) no DIPECHO effort be developed on the continent. However, ECHO was

[236]http://ec.europa.eu/echo/files/evaluation/2003/disaster_report.pdf

encouraged to identify and implement joint operations with food security in the Horn of Africa region.

Years later, the European Commission issued the EU 'Strategy[237] for supporting DRR in Developing Countries', which charted the EU's plans under the five HFA Priorities for Action. The strategy, approved in May 2009, had significant implications for several funding instruments within the EU. The areas of intervention are summarized in Box 26 below.

Box 26: **Excerpt from EU Strategy for supporting DRR in developing countries**
Council conclusions

The Council endorses the Strategy's areas for intervention, which are fully in line with the five Priorities of the Hyogo Framework for Action. Its main interventions will include:

- Promoting DRR as a priority at national, regional and local level as well as in relevant UN fora;
- Supporting the integration of DRR into policies and planning, in particular into national development and poverty reduction strategies;
- Promoting the identification, assessment and monitoring of disaster risks, including enhancing early warning and its effective linkage to early reaction;
- Promoting the reduction of risk factors, including through adaptation to climate change;
- Providing institutional support to national and local authorities and stakeholders;
- Supporting the improvement of analytical tools (data monitoring stations, vulnerability assessment), including joint analysis with partner countries;
- Supporting capacity building, education, training, as well as dissemination of risk information to the relevant authorities and communities.

Source: Press release of Council of European Union 2943rd External Relations meeting, Brussels, 19 May 2009

In 2010, the EU published a working document on Risk Assessment and Mapping Guidelines for Disaster Management,[238] --in essence a roadmap to good practice under HFA Priority 2.In 2012, the EU went further by conducting a 'Best practice programme leading to EU guidelines on minimum standards for disaster prevention'.

An evaluation[239] of DRR mainstreaming within ECHO indicated that, despite the absence of a specific policy on DRR, measures designed to reduce risk and vulnerability were frequently incorporated into ECHO disaster responses. Programmes that include the use of appropriate technologies for water, sanitation and shelter facilities, and other tangible assets, regularly contributed to reducing longer-term vulnerability in communities.

DG ECHO's main initiatives for DRR in Africa to date include targeted preparedness efforts (including drought preparedness in Horn of Africa and nutrition preparedness in the Sahel) and DIPECHO decisions (South Eastern / Indian Ocean). These three initiatives are described below.

[238]http://ec.europa.eu/echo/civil_protection/civil/pdfdocs/prevention/COMM_PDF_SEC_2010_1626_F_staff_working_document_en.pdf
[239]Wilderspin, I., Barham, J., Gill, G., Ahmed, I., Lockwood, H., 2008.*Evaluation of Disaster Risk Reduction Mainstreaming in DG ECHO's Humanitarian Actions.*

DROUGHT PREPAREDNESS

Horn of Africa region (4 countries)

The recurrence of disasters in the GHA has meant that populations in Ethiopia, Kenya, Somalia and Uganda require on-going humanitarian and DRR assistance. DG ECHO has been engaged in drought preparedness initiatives across the region since 2006 with a total budget of €70 million (2006: €10 mil; 2008: €30 mil; 2009: €10 mil; 2010: €20 mil) under Regional Drought Decisions (RDD). In 2012, this component was folded in the regional Humanitarian Implementation Plan (HIP) for better integration of DRR into ECHO response interventions.

The primary focus of the original RDD programme was to support vulnerable local communities affected by the impact of recurrent drought cycles and to promote appropriate early responses to future droughts. The programme prepared communities to deal with drought conditions that were becoming ever more frequent. Population growth, resource based conflicts, deficient development and poor basic services as well as changes in climatic conditions continue to compound the situation.

The RDD approach had a number of basic characteristics: a focus on natural hazards; a regional and cross border approach; an early response to disasters; and a focus on the most vulnerable groups in high-risk areas. The preparedness was short-term, community-based and people-centred. The RDD approach promotes strong local ownership and includes awareness raising, building local capacity and support to national and regional coordination for disaster response. Even today, DG ECHO projects are designed as pilot interventions to be replicated in order to mainstream drought/ DRR approaches into the humanitarian response strategies of Horn of Africa countries.

The drought preparedness component of the 2012 HIP shares a common approach with the ECHO Disaster Risk Reduction (DRR) preparedness and mitigation programme, which is currently operating in Southern Africa (described below) and in other parts of the world. They both use community-based preparedness in order to boost the coping capacities of communities.

Despite the drought preparedness efforts funded in the Greater Horn of Africa since 2006, a major drought took the region by surprise in 2011. As experienced during the 2011 drought, the 2012 HIP for the Horn of Africa[240]established that, the overall level of preparedness of the communities, as well as of national and local institutions, was not sufficient to cope with repeated shocks. Local coping mechanisms were being eroded, with the acute need to strengthen community resilience was increasingly acknowledged. Vulnerability analysis systems had not provided timely information and national stakeholders and their development partners needed to be more engaged to address the identified needs. Based on these findings, the Greater Horn of Africa HIP announced that the DG ECHO response in 2012 would be aligned to two strategic objectives, both of which reference

[240]http://ec.europa.eu/echo/files/funding/decisions/2012/HIPs/HoA.pdf

preparedness and DRR (see Table 37 for more details).

In 2012, the European Commission (EC) developed a new approach for the Horn of Africa - Supporting Horn of Africa Resilience (SHARE) - that seeks to break the vicious cycle of crises in the region. In the framework of SHARE, the European Commission has invested more than €270 million in supporting recovery from the last drought through close cooperation between humanitarian aid and long-term development. It is also working to strengthen resilience to future crises.

The EC places emphasis on improving coordination for the delivery of aid and to ensure that all of the affected populations' needs are met. In addition, regional, local and national governments, as well as regional bodies such as IGAD, play a crucial role in ensuring appropriate policies and legislation. The EC also encourages regional dialogue and coherence in approaches. SHARE is a good example of the EC's role in promoting coordination and in linking short-term humanitarian aid with DRR development coordination mechanisms.

NUTRITION PREPAREDNESS

Sahel (8 countries)

ECHO has been funding projects in the Sahel region[241] since 2005 (following the nutritional crisis in Niger), aimed at reducing malnutrition rates. It has expended€76 million since2005, not including HIPs. In 2005, Niger reported more than 15% of children under five years of age were malnourished. By 2007, this rate had been reduced to 10%, largely thanks to the sustained and dedicated humanitarian effort deployed by the EC's partners (United Nations, Red Cross and NGOs). However, despite these encouraging figures, the persistent and endemic prevalence of malnutrition registered in some areas, depending on the season and in concert with the deep-rooted causes, remain a constant concern. The EC's strategy to fight malnutrition in the Sahel has been based on three pillars, described in Table 7.4.

Despite the nutritional preparedness efforts funded in the Sahel since 2005, there have been three Sahel food crises since 2005, the worst being 2012[242], which resulted in a full-scale Sahel HIP[243]that allocated a total of €141.5million[244] (including 3 revisions).

The 2012 crisis was the impetus for the EU's establishment of a new partnership to strengthen resilience to future droughts and food crises over the long-term. Entitled AGIR: Sahel (*Alliance Globale pour l'Initiative Resilience*), this new partnership has one core objective: to ensure that the most vulnerable people of the Sahel are able to cope better with future droughts.

[241]http://ec.europa.eu/echo/files/media/publications/nutrition_sahel_en.pdf

[242]http://ec.europa.eu/echo/files/aid/countries/factsheets/sahel_en.pdf

[243]http://ec.europa.eu/echo/files/funding/decisions/2012/HIPs/sahel.pdf

[244]Because it prioritizes resilience, a proportion of the Sahel HIP promotes DRR, but this proportion is not known and therefore has not been added to the DRR total above.

DIPECHO/DISASTER PREPAREDNESS

South Eastern Africa and Indian Ocean Region (5 countries)

DIPECHO global allocations have been on the rise, amounting to €34.3 million for 2011 alone [245]. In July 2008, the EC adopted the Humanitarian Aid Decision ECHO/DIP/BUD/2008/04000 for the 'First DIPECHO Action Plan for South-East Africa and the South-West Indian Ocean'. This decision, which totalled €5.5 million, funded DRR projects in Comoros, Madagascar, Malawi and Mozambique (the subsequent DIPECHO II totalled€6 million). While drought efforts were allowed in DPIECHO I, they were not a focus in DIPECHO II. DIPECHO III (€6.1 million[246]) restored a possible focus on drought and Namibia replaced Comoros. Projects funded under these decisions prioritised efforts listed in Table 7.4. To date, disbursements from DIPECHO I, II and III have amounted to €18.1million.

The independent evaluation[247] of DIPECHO I and II highlighted the value of ECHO's contributions to CEWS, the difficulty in distinguishing between some DRR and development efforts and the need for ECHO to find more ways to proactively integrate, or mainstream, DRR with Europe Aid efforts in the same countries.

In tallying only the DRR components of the DG ECHO portfolio described above, no less than €164.1 million has been invested in 17 countries in Africa.

7.4.4 The World Bank Global Facility for Disaster Reduction and Recovery (GFDRR)

Established in 2006, the Global Facility for Disaster Reduction and Recovery (GFDRR) is a partnership of 41 countries and 8 international organisations committed to helping developing countries reduce their vulnerability to natural hazards and adapt to climate change. The partnership's mission is to mainstream DRR and CCA in country development strategies by supporting country-led and managed actions to implement the HFA.

The World Bank manages the GFDRR on behalf of the participating donor partners and other partnering stakeholders. It provides technical and financial assistance to high-risk, low and middle-income countries to mainstream DRR in national development strategies and plans, to achieve the MDGs.

More recently, in order to develop a strategic long-term vision for DRM in high-risk countries, GFDRR applied the guidelines of its Consultative Group in 2011 in preparing comprehensive programmes of support for DRR DRM in 20 priority countries[248], of which 10 are African countries: Burkina Faso, Ethiopia, Ghana, Madagascar, Malawi, Mali, Mozambique, Senegal, Togo and Djibouti.

[245] This figure is not comparable to OFDA's 2011 DRR figure (under USAID above), because ECHO's contribution to DRR goes well beyond the DIPECHO programme. ECHO has risk-reducing programs in at least 23 countries in Africa (including those described above) and many of ECHO's major humanitarian financing decisions include disaster preparedness or mitigation of impacts as an objective; finally, post-disaster emergency responses also often have risk reduction elements.

[246]http://ec.europa.eu/echo/files/funding/decisions/2012/HIPs/Southern_Africa.pdf

[247]http://ec.europa.eu/echo/files/evaluation/2012/DIPECHO_south_africa_indian_ocean.pdf

[248] https://www.gfdrr.org/node/156

Since 2007, GFDRR has funded DRR initiatives in Africa along four financing tracks (Tracks I and II increasingly include CCA activities within their range of actions):

Track I, 'partnership', supports UNISDR regional processes to leverage resources to implement the HFA. Both the first and second Africa Regional Platforms for Disaster Risk Reduction were funded by GFDRR Track I, as is on-going technical support to RECs and the AU. Since 2007, US$ 4.2million has been invested in regional DRR efforts (19 projects, all on-going) across the Sub-Saharan and North Africa regions.

Track II supports the mainstreaming of DRR into national policy and strategy development, as well as pilot national and sub-national initiatives. Since the Facility was launched in 2007, 42 DRR projects (29 on-going) have been implemented in 30 countries totalling US$35.8million.

Funding under Track III, which is for DRR in recovery, is not reported on in detail in this report (7 projects, US$1.9million, 9 countries).

Finally, Track IV, the African, Caribbean and Pacific (ACP)-EU track, is an EU-funded mechanism that is managed by GFDRR to address prevention, mitigation and preparedness to natural hazards in four priority areas: (i) mainstreaming of DRR; (ii) risk identification and assessment; (iii) EWS and communication on DRR; and (iv) risk transfer and integration of DRR into post-disaster recovery.

The ACP-EU track features 14 projects in 18African countries, totallingUS$7 million funding support since 2012.

Considering all of the four Tracks, GFDRR has provided over US$47.9 million in funding for DRR in Africa[249] covering all African countries directly or through a regional effort.

As can be seen from Table 37, GFDRR funds have supported DRR projects and initiatives that span all five of the HFA Priorities for Action

Table 37: DRR activities in Africa by selected Donors and Financial Institutions, by HFA Priorities for Action

Entity	HFA Priority 1 and ARSDRR Obj. 1 and 5: *National Priority/Political Commitment and Governance*	HFA Priority 2 and ARSDRR Obj.2: *Monitoring Disaster Risks and EWS*	HFA Priority 3 and ARSDRR Obj. 3: *Knowledge, Innovation, Education*	HFA Priority 4 and ARSDRR Obj. 4: *Reduce risk factors*	HFA Priority 5 and ARSDRR Obj. 6: *Preparedness for effective response*	General
USAID/OFDA (2009-11) FY2011 DRR Investment: West/North Africa: $8,254,239 (8 countries) East/Central Africa: $87,336,024 (6 countries) Southern Africa $28,398,103 (7 countries) **TOTAL: $123,988,366** (21 countries) (47% of the global DRR investment) See for more details and maps: http://www.usaid.gov/what-we-do/working-crises-and-conflict/disaster-risk-reduction/resources *SOURCE: DRR efforts in Africa portrayed per HFA Priority were extracted from'USAID: DRR Programs Fact Sheet #1)http://www.unisdr.org/files/14099_fullrep*	• Surveillance, treatment and prevention of malnutrition in Burkina Faso, Mali, Niger and Guinea. • The Food and Nutrition Technical Assistance II Project (FANTA II): to improve nutrition and food security policies and strategies. • Community Management of Acute Malnutrition (CMAM) with Ethiopia's Ministry of Health. • Strengthen capacity of the South Africa Disaster Management Coalition and SADC Member States in understanding risks of climate change. • Support to SADC's Regional Remote Sensing Unit and the Drought Monitoring Centre to develop a broad risk and vulnerability atlas.	• Support to ICPAC: implemented a regional seasonal climate prediction system in 10 Greater Horn of Africa countries • Information Network for Decision-Making (MIND with FEWS NET) to strengthen early warning of cyclones and flooding • Improving contingency planning in Mozambique. • Vulnerability Assessment Committees (VACs) in Southern Africa • Nutrition EWS in Guinea • Zambezi River Basin Initiative: to reduce flood vulnerability in 7 countries (Angola, Botswana, Malawi, Mozambique, Namibia, Zambia and Zimbabwe).	• Training in the management of severe malnutrition in Burkina Faso • Support to Periperi U to develop skilled DRR professionals (Algeria, Ethiopia, Ghana, Kenya, Madagascar, Mozambique, Senegal, South Africa, Tanzania and Uganda). • Strengthen Peri-Urban Risk Reduction in Zambia (SPURRZ): to reduce flood hazard risks among populations in Lusaka • Strengthen Food Security and Market Analysis in West Africa (Gambia, Guinea, Guinea-Bissau, Senegal and Mauritania) • Cholera preparedness in Guinea • DRR degree programme in South Africa	• Community-based drought mitigation in Swaziland and Malawi • Rehabilitation through Irrigation and Prod. Extension (RIPE II) in Malawi • Milk matters study, livestock disease surveillance and drought-resistant root and tubers in Ethiopia • Support for disease free cassava in Eastern and Southern Africa • Asst. Emergency Locust/ Grasshopper Abatement (AELGA) • Improved post-harvest storage in Burkina Faso and Ethiopia • Zambezi River Basin Atlas • Drought vulnerability in Swaziland • WASH in Kenya • Water Mgmt. and Crop Diversification, Zambia • Conservation agriculture. and irrigation in Lesotho mountains • Multi-Use water sources in Madagascar • River value, drought and cyclone vulnerability and climate resilience in Mozambique	• Cholera Response Plan for Guinea and Guinea-Bissau • Community-Based disaster and NRM in Zambia • Strengthening Community Resilience in Ethiopia	• Support to CRED's Emergency Events Database

Entity	HFA Priority 1 and ARSDRR Obj. 1 and 5: *National Priority/Political Commitment and Governance*	HFA Priority 2 and ARSDRR Obj.2: *Monitoring Disaster Risks and EWS*	HFA Priority 3 and ARSDRR Obj. 3: *Knowledge, Innovation, Education*	HFA Priority 4 and ARSDRR Obj. 4: *Reduce risk factors*	HFA Priority 5 and ARSDRR Obj. 6: *Preparedness for effective response*	General
ort1.pdf				• Agriculture and food security in DRC		
DG ECHO Investment in DRR from 2005 to 2012: • **Drought preparedness:** Horn of Africa, 4 countries €70 million (x HIP) • **Nutrition preparedness:** Sahel, 8 countries €76 million (x HIP) • **DIPECHO:** South-Eastern Africa, 5 countries €18.1million **TOTAL: €164.1 million** *URCE: http://ec.europa.eu/echo/policies/prevention_preparedness/dipecho_en.htm*	• Support IGAD capacity in coordination and legislation via the SHARE project. • Advocacy and public awareness, building of public opinion, local governments and development partners that will contribute to making nutrition central to the DRR and development agendas in 8 Sahel countries. • Institutional strengthening (Southern Africa, Indian Ocean) • Advocacy (Southern Africa, Indian Ocean)	• Local resilience to drought is strengthened (Ethiopia, Kenya, Somalia, Uganda). • Improving the knowledge base of malnutrition through understanding of early warning indicators, including household economy studies and the funding of regular nutritional surveys in 8 Sahel countries. • EWS (earthquakes, floods and cyclones) (Southern Africa Indian Ocean) • Conduct hydrological and geophysical studies (Southern Africa Indian Ocean)	• Local resilience to drought is strengthened (Ethiopia, Kenya, Somalia, Uganda). • Improving the knowledge base of malnutrition through understanding of early warning indicators, including household economy studies and the funding of regular nutritional surveys in 8 Sahel countries. • Local capacity building (Southern Africa Indian Ocean) • Education and awareness (Southern Africa Indian Ocean)	• Local resilience to drought is strengthened (Ethiopia, Kenya, Somalia, Uganda). • Support to innovative and replicable pilot projects to provide nutritional care to severely malnourished children and lactating mothers with ready to use therapeutic foods and to improve their access to basic health care. Support for the early treatment of malnutrition before it becomes severe in 8 Sahel countries. • Community grain storage facilities in flood-prone areas (Southern Africa Indian Ocean)	• People affected by crisis are assisted in a timely fashion and offered adequate protection through humanitarian assistance, including improved emergency preparedness (Ethiopia, Kenya, Somalia, Uganda). • Stock building of emergency and relief items (Southern Africa Indian Ocean) • Small-scale mitigation works and infrastructure support: replication and systematisation of dwellings/public buildings resistant to cyclones /earthquakes (Southern Africa Indian Ocean)	

Entity	HFA Priority 1 and ARSDRR Obj. 1 and 5: *National Priority/Political Commitment and Governance*	HFA Priority 2 and ARSDRR Obj.2: *Monitoring Disaster Risks and EWS*	HFA Priority 3 and ARSDRR Obj. 3: *Knowledge, Innovation, Education*	HFA Priority 4 and ARSDRR Obj. 4: *Reduce risk factors*	HFA Priority 5 and ARSDRR Obj. 6: *Preparedness for effective response*	General
Global Facility for DRR (GFDRR) Since 2007, GFDRR has provided over US$47.9 million for DRR covering all African countries either directly or through a regional effort *SOURCE: https://www.gfdrr.org*	• Improvement of legislation for DRR (Seychelles) • Inclusion of DRR activities in the work programmes of AU, ECCAS, ECOWAS and SADC , linking CCA and DRR • Support regional partnerships to build DRR capacities in high-risk countries (Tunisia, Morocco, Djibouti, Egypt and Algeria). • DRR strategy development for SADC • DRR Policy development for ECOWAS • Production of an agreed plan of investment for Africa	• Mapping of vulnerabilities and urbanisation trends. (Senegal) • Capacity building for climate modelling techniques. • Construction of vulnerability baseline (Ethiopia) • Research on vulnerability to floods for national database (Ethiopia) • Capacities development for EWS (Seychelles) • Data sharing protocols agreed between ECOWAS, ECCAS and between SADC Member States at high risk of trans-boundary, hazards	• Information provision to general public (Seychelles) • Mapping existing DRR training centres and their capacity • Regional training workshops on mainstreaming DRR • Training and resources for World Bank Task Team Leaders to mainstream DRR • Development of human capacities for implementing DRR (Mozambique and Malawi)	• Mainstream DRR in sectoral policies and plans (Malawi and Mozambique • Research into innovative risk financing measures (Swaziland) • Development of DRR plans for coastal and marine areas (West Africa) • Support research and long-term development plans (Ghana) • Provide safety nets for cotton farmers (Burkina Faso) • Integrate climate risk management into economic planning (Madagascar) • Nutrition programme (Ethiopia)	• Training for preparedness (Seychelles)	• Report on status of implementation of HFA in Sub-Saharan Africa • Formation of regional thematic networks • Consultation to produce a drought risk reduction framework between IGAD and SADC • Formulation of proposals to address risks associated with climate change • Production of a plan to increase resources for NAPAs • Promote urban DRR in the context of CCA (North Africa).
MSB (2012-15) West Africa, Botswana, Mozambique, Kenya	• Advocated for MOUs with stakeholders that helped establish clear lines of communication in support of CEWS • Promoted national and National RC/RC Societies DRR/M policies	• Designed and developed CEWS for CCA in 3 countries • Produced Training of Trainers CEWS Operational Guide for NS and NGOs to expand in the region • Lobby to create a roster of CEWS-trained African professionals	• Implemented West Africa Disaster Management Capacity Building Project • Conducted overview Course on Disaster Risk Reduction, Response & Recovery (DR4)		• Improved tele-communication, logistics & mobile command & control centres • Simulations with National RC/RC Societies • Beyond Response-strengthen preparedness for environmental emergencies • Develop contingency plans with National RC/RCSocieties	

CHAPTER 8: CONCLUSIONS AND WAY FOWWARD

This chapter presents a summary of the conclusions of this report on the status of DRR in Africa, based on the review of institutional arrangements and progress towards the objectives of the Hyogo Framework for Action and the Africa Regional Strategy for Disaster Risk Reduction presented in previous chapters.

It also presents a series of inter-dependent recommendations to accelerate progress in the principal areas of DRR: institutional frameworks and governance; risk identification and assessment; knowledge management; education and public awareness; underlying risk factors; and preparedness for effective response and recovery across the continent.

8.1 RECOMMENDATIONS FOR FURTHER PROGRESS AT THE REGIONAL AND SUB-REGIONAL LEVELS

The goals of sustainable development, poverty reduction and human security are stated in the core mandates of the AU and the RECs, as discussed in this report. As a key component of all actions to reach these goals, DRR is firmly anchored in the founding HFA principles and statutes of the principal governmental institutions of the region and its sub-regions.

Moreover, the key governing bodies of these institutions have led or endorsed the formulation of DRR plans and policies. The ARSDRR PoA (2006-15) to implement the ARSDRR Objectives and the corresponding initiatives of the RECs represent substantial commitment to DRR objectives. Commitments have also recently included initiatives for South-South cooperation to build on successful experiences from within the Sub-Saharan African region. These programmes have secured recurrent funding and are now implementing and reassessing their strategies. The Africa Working Group operates as an effective mechanism to ensure sustainability and accountability to all stakeholders in the DRR process.

DRR measures have been incorporated into the environmental policies of ECCAS and ECOWAS, thus representing a significant achievement towards mainstreaming DRR into wider development processes. However, a similar, integrated approach is still needed in other development sectors.

In fact, each REC has a DRR portfolio of very different nature and level of progress. Highlighting the successes of each and enabling the exchange of good practice between RECs will go far to promote DRR in the region.

Regional institutions for climate risk management, such as ICPAC and the SADC's Drought Monitoring Centre, are responding to major global and regional challenges through enhanced services for DRR and CCA. Continued support to these institutions is critical, given the significant impact of climate change anticipated in the region.

A regional and sub-regional network for knowledge management (one that

includes traditional knowledge) needs to be developed in line with the 3rd recommendation of the 2nd African Ministerial Conference on DRR, in addition to developing capacities for DRR in order to meet Africa's expanding need for regionally-tailored expertise.

To consolidate early achievements and ensure sustainable progress, the efforts of regional and sub-regional governmental institutions should focus on:

Maintaining and strengthening regional mechanisms to support the implementation of DRR strategies and programmes at regional, sub-regional and national levels, and to monitor their progress of these. More holistic trans-boundary assessments and EWS need to be promoted.

Forging political, administrative and operational synergies, between DRR and CCA frameworks and processes.
Mainstreaming DRR objectives into social and economic development policies should remain a priority.
Securing and allocating regular delegated (non-project or response) funding for full implementation of DRR plans and programmes.

8.2 RECOMMENDATIONS FOR FURTHER PROGRESS AT THE NATIONAL LEVEL

HFA PRIORITY 1: INSTITUTIONAL FRAMEWORKS AND GOVERNANCE

Across the region, there is a positive trend in the establishment or reform of institutional, legislative and policy frameworks for DRR, although in some cases the lead institution for DRR may not yet hold sufficient authority to influence all relevant sectors of government.

Decentralised models of governance and administration are in place in most countries of the region, thus providing a potentially effective structure for multi-level DRR, but the majority of countries still lack resources and capacity to engage with communities at risk and implement local initiatives.

While National Platforms or equivalent structures have been created in 38 countries (Figure 4), some of these Platforms meet irregularly while participation in others is limited to governmental actors, with insufficient involvement of representatives of civil society organisations, UN agencies, media and the private sector. It is important to promote multi-sectoral, multi-stakeholder participation in National Platforms and empower them to influence DRR policy development, programme design and resource allocation.

In order to ensure that DRR is a national and local priority for all relevant governmental and non-governmental actors, efforts should now be directed at consolidating the vertical and horizontal coordination capacities of the institutions responsible for DRR. Furthermore, DRR legislation and policy should be translated into adequately-resourced programmes of action to deliver tangible benefits for communities at risk. This would include:

- A review and revision of the mandates and the quality of supporting legislation to ensure that these empower DRR institutions to engage with and influence the full spectrum of

relevant governmental and non-governmental actors on issues of DRR.

- An assessment of DRR capacities, followed by a multi-sectoral capacity-development plan, for key governmental institutions.

- Adequate, assured and sustained financing, accessible for all relevant sectors, to integrate risk analysis and DRR measures into development programmes. As the most commonly expressed constraint to DRR progress (along with political will), further sustainable progress is unlikely without the establishment of dedicated DRR budgets at the national level.

- Provide clear incentives in terms of opportunities to influence DRR policy development, programme design and resource allocation for all relevant stakeholders, through active participation in National Platforms for DRR. Incentives, along with the corresponding authority, are also required for decision makers to engage in early (protective) action when warnings are issued in spite of uncertainty.

HFA priority 2: Risk identification and assessment

There is increased capacity in some countries of the region to carry out comprehensive, multi-hazard risk assessments and to operate effective EWS. However, in the majority of African countries, hazard mapping is still incomplete and is not yet complemented by corresponding data on vulnerability, thereby limiting the function or scope of monitoring or EWS.

Risk assessment should be the cornerstone of DRR. Reliable data on hazard identification and monitoring as well as analysis of vulnerabilities are needed to inform, target and measure the impact of DRR efforts. Risk assessment also provides clear evidence to influence other sectors of the need for, and potential benefits of, incorporating DRR actions within development programming. Further, multi-national efforts to reduce risk depend on the systematic collection and management of risk data.

In order to improve national capacities to systematically assess risks for disaster management and development purposes, significant investment is needed in the following areas:

- Development of national institutions' capacity to carry out risk assessments guided by national experts (instead of organised independently by external consultants), involving the identification and assessment of hazards, vulnerability and capacities, including those related to climate change and CCA. Assessment methodologies should include both scientific data and traditional knowledge methodologies.

- Further development of national and decentralised systems to collect, compile and analyse data (starting with disaster loss databases) and to provide information to multiple sectors.

- Above all, more attention paid to establishing people-centred, CEWS that complement national systems, and where such systems cannot function, then establish community-powered systems. It is time to move away from top-down EWS and instead toward empowering communities as disaster preventers, before they become first responders.

- More beneficial collaborative alliances with civil society organisations working at the local level, to contribute to the collection and dissemination of risk data and to bridge the wide gap between technical or scientific information and communities.

- Disasters know no boundaries. Much greater investment must be made in systems and processes that span national borders.

- Increase investment in biological hazards – to date, the cause of the most fatal disasters in Africa.

HFA priority 3: Knowledge management, education and public awareness

As one of the strengths of the regional portfolio, public awareness strategies for DRR, based on a variety of modern and traditional media to communicate information, are in place in most countries of Africa, although some of these do not reach remote or rural populations or those who have no access to radio, television and electronic media.

To achieve greater progress in countries where changes to educational curricula are not yet evident, efforts should be directed towards the sensitisation of educators to integrate concepts and information about DRR, coupled with technical and financial support to adapt educational materials.

Across the region, there is very little reported activity in terms of research and tools development for disaster risk assessment methodologies and cost-benefit analyses of DRR. Synergies with the growing number of national university programmes and regional knowledge centres with DRR focus should be channelled to provide these tools, in partnership with the governments.

Despite a growing understanding of the impact of climate change in Africa, few initiatives integrate DRR and CCA systematically (such as longer-term EWS that embrace both sudden and slow-onset hazards). Too often, two entirely separate ministries within a country manage DRR and CCA portfolios.

To stimulate greater activity in professional training and academic research, financial incentives should be made available to educational institutions and students.

To increase the coverage and impact of public awareness strategies, governments should seek and forge alliances with civil society actors, particularly those with a presence in remote or rural areas, or with access to sectors of the population most at risk.

HFA priority 4: Reducing underlying risk factors

Although policies and plans exist in some countries to protect key industries and installations from disasters, the economic and productive sectors appear to be relatively disconnected from national DRR efforts.

Urgent action is required to tackle the underlying causes of vulnerability to disasters. Such actions involve:

- Strong political leadership on DRR to galvanise multi-sectoral coordination at all levels of government and with inter-governmental and non-governmental stakeholders.
- A sustained synergistic approach to integrate DRR and CCA into development policies, planning and programmes.
- Coordinated and strategic support to governments from agencies within the UN system, civil societyorganizationsthe RC/RC Movement and NGOs, in order to foster a holistic approach to DRR.
- Increased availability of funding from multilateral and bilateral donors for integration of DRR objectives within poverty-reduction, sustainable development and CCA programmes. Donors should lead by example, systematically assigning portions of all response funding to DRR, and linking relief and recovery to development.
- Increased financial, political and technical support for innovative projects addressing disaster risk in urban contexts.
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HFA priority 5: Preparedness for effective response and recovery

As has been reported, countries have progressed well in terms of preparedness measures. Nevertheless, gaps remain which can be addressed through:

- More accentuated and concise linkages made between the growing wealth of early warning information and early preventive action. Financial reserves need to be allocated and accessible to those engaging in early action to prevent disasters.
- Decentralised responsibilities and participatory processes to involve vulnerable or disaster-affected populations in the formulation of disaster preparedness plans for all relevant hazards.
- Coordinated preparedness planning processes between government, inter-governmental and non-government stakeholders of National Platforms.
- Explicit inclusion of benchmarks and indicators for DRR in ex-post evaluations of disaster management projects.
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8.3 Recommendations for further progress at thematic Level

Despite impressive investment in drought risk reduction in Africa for more

than twenty years, early warning and preventive action are still unable to stave off the impact of erratic or insufficient precipitation. Lessons learned from failed warnings point more often to inadequate political will or untimely action than to deficiencies in data and information. Adding to these problems is the absence of systems that track vulnerability alongside the hazards – an essential component of the function of risk assessment.

As DRR players and actors rally to rethink resilience in Africa and to propose innovative solutions (such as weather-indexed insurance schemes linked to an 'eye in the sky' or new varieties of short cycle crops) to persistent hazard events and their associated problems, it is important that it is a set of trans-disciplinary African champions who spearhead each solution – DRR champions, who genuinely believe in innovative approaches the long-term greater good of African communities.

For better or for worse, the number of urban centres in Africa is on the rise. As long as drought and land degradation persist in Africa, so too will uncontrolled urbanisation of the continent. The significance of urban risk relates to the vulnerabilities created by the urban environment in the context of hazards. The continent's cities are characterised by , large populations, on- going migration of large numbers of IDPs and the rural poor, informal settlements and lack of services.
Urban risk can be managed, in part, by enabling rural communities to thrive in the areas where they currently reside. Beyond that, urban risk must be managed with new tools (adapted from tried and tested rural tools) that appeal to more sophisticated urban communities with often higher demands and which enjoy greater access to technology. Urban leadership and local governments must continue to be channelled and kept at the head of urban risk reduction.

There are no quick fixes for drought and urban risk, but actions such as building resilience and undertaking community DRR outreach into primary school curricula are likely to establish a new generation of Africans who are ready to make a sustainable difference.

8.4 Monitoring and reporting

Under both the HFA and the ARSDRR, African states and international organisations (including RECs, AUC and the UN system) are requested to compile regular progress reports. Specific guidelines and tools have been developed by UNISDR to monitor the implementation of the HFA, and a biennial global self-assessment reporting tool has been established

There was a positive trend in the number of countries submitting HFA reports for the first three HFA self-reporting periods (Figure 5). (for this reason, this report detailed the most recent submissions of all reporting countries (37)). A decline in the most recent reporting period indicated that more work is required to engage African governments in using the tool to conduct a self-assessment of progress. It is not intended, nor should it be viewed as a reporting task, but rather, as a tool for governments and their National Platforms to use for meaningful trans-disciplinary planning.

The quality of the HFA reports received was generally good, although most tended to focus on the activities of government, or just on the activities of the institutions responsible for DRR,

rather than demonstrating and capitalising on the collective efforts of many sectors and partners in the country.

Further progress requires:

- The submission of biennial HFA reports, using the standard formats and tools, by all countries of the region. Differentiated support may be required from UNISDR, depending on the capacity of each country.

- Rethinking the reporting process, for example, by engaging the RC/RC National Societies (already present in nearly every country) in partnership with UNISDR, to support the governments in completing their HFA reporting every period. If approved by the AU, the in-country National RC/RC Society disaster manager would require little more than HFA training in order to channel that capacity through their disaster manager's government counterparts – the DRR Focal Points. Because the DRR Focal Points are in a constant state of flux, the role of National Societies would provide a certain level of continuity. A feasibility study should be made of this RC/RC-UNISDR-government partnership.

- Participatory processes to collect data need monitoring from multiple stakeholders. Reports on the status of DRR efforts should reflect progress achieved by the five main stakeholder groups of a national community[250] and relevant inter-governmental organisations.

[250] These are: the public sector, the private sector, NGOs and other civil society bodies, academic and research institutions, and the media.

Further analysis of the HFA indicators is required as there are still a few whose measurements are very closely related. Furthermore, the process of validation of each indicator also needs to be explored further.

Although comprehensive lists of documents and steps are offered to guide the scoring of each indicator, it is still possible to accord oneself the highest score with no need to submit tangible proof of achievements. Methods of validation may need to be considered, such as the provision of official documents attesting to achievements that support the purported score

The Post-2015 framework for DRR is expected to address this and other issues. In the lead up to the Post-2015 framework, these issues can be readily incorporated into planning for a HFA successor programme.

Finally, Post-2015 discussions, including national and regional consultation meetings, should consider how National Platforms and DRR coordination mechanisms can be further strengthened

8.5 The Way Forward

DRR has gained momentum in Africa. This momentum and energy must be sustained. There are numerous opportunities for the AUC, Multilateral Development Banks, RECs and countries to become major players in DRR (CCA included). Given its size, natural resources, history of exposure to multiple hazards and economic challenges, Africa is a living laboratory in which to explore resilience.

Above all, it is political will and sustainable DRR funding mechanisms that will determine the overall effectiveness of DRR efforts in Africa. Additional supportive steps should include the following:

- Strengthen mechanisms, legislative frameworks and capacities at national levels for mainstreaming and implementing DRR strategies and frameworks, including climate change implications, systematically.

- Translate policies, frameworks and experiences into practical tools to assist decision makers and practitioners to facilitate the implementation of the HFA and ARSDRR.

- Identify experienced and talented young Africans to participate in DRR actions each of the HFA and ARSDRR Priorities and Objectives, and provide them with opportunities to exchange and share information with one another as well as to teach other Africans, thereby creating a culture of South-South capacity building that will translate into DRR growth.

- Equip communities with the mechanisms necessary to better understand, and where possible, monitor hazards to which they are exposed, making them champions of DRR by instilling in them DRR reflexes and community-led early actions, starting with the development of new, DRR-focused, primary school curricula.

- Develop partnerships and mobilise resources to contribute to the implementation of specific projects leading towards achievement of the HFA and ARSDRR.

- Embed a holistic approach to the systematic incorporation of risk reduction measures into the design and implementation of disaster preparedness, response and recovery programmes.

Efforts by all stakeholders must now be scaled up, accelerated and coordinated in order to achieve the HFA and ARSDRR objectives of a substantial reduction of social, environmental and economic impacts of disasters on the people and economies of Africa by 2015. Already, several regional consultations for the post-2015 HFA agenda have been conducted in Africa. These include the 4th Africa Regional Platform (Tanzania, Feb 2013), Africa Consultative Meeting (Nairobi, Nov 2013),African Cities Consultation (Senegal, Dec 2012), two Central Africa DRR Platforms (Cameroon, Oct 2012), the 35th Climate Outlook Forum (Kenya, Aug 2013),the 32nd Climate Outlook Forum (Tanzania, Aug 2012) and the 16th Southern Africa Climate Outlook Forum (Zimbabwe, Aug, 2012), in addition to focused Post-2015 framework for DRR consultations in Nigeria, Gabon and Uganda. Together, the countries of the continent are highlighting their goals for the future of the HFA.

African stakeholders have reconfirmed the proven value of the HFA as a central framework for DRR in Africa, alongside the ARSDRR (and it's PoA). These stakeholders should continue to work together to improve mechanisms for coordination and dialogue and to develop indicators and further ways to monitor and report progress. Special emphasis should be maintained on

aligning the future of HFA more seamlessly with the post-2015 UN sustainable development goals (SDGs) and CCA agendas.

The most frequently articulated themes that merit accelerated attention and action in a post-2015 DRR framework include: rapidly increasing urbanization and its related risks, engendering DRR, engaging local actors and youth, the inter-linkages between social protection and poverty reduction, conflict and natural hazards. To achieve effective disaster resilience, strategic partnerships must be built and sustained between governments, communities, development actors and humanitarian actors at all levels. African leaders have also highlighted that key elements of future DRR advances should include people-centered communities of resilience, integrated approaches for development and sustainable, enabling environments.

Although DRR advocacy paid huge dividends worldwide, more needs to be done to sensitize African governments to the current and future benefits of working towards achieving the HFA and ARSDRR, in terms of building resilient countries and communities, particularly in the face of mass urbanization. Conflict-prone areas require special attention, since disasters play a role in increasing the risk of conflict, which in turn heightens vulnerability to hazards.