

**Regional Assessment and Good Practice Synthesis Report on
Mainstreaming and Implementing Disaster Risk Reduction and
Management in Africa**

December 19, 2014

Table of Contents

Acknowledgements.....	v
Acronyms	vi
Glossary/definitions of terms.....	vii
Executive Summary	x
Chapter 1: Introduction	1
1.1 Background	1
1.2 Objective and scope of the assessment	1
1.3 Methodology	1
1.4 Limitations of the Report	2
1.5 Outline of the report.....	3
Chapter 2: Disaster Occurrences and Impact in Africa.....	4
2.1 Overview of Africa’s economic, social and environmental context.....	4
2.1.1 Development status and trends in Africa	4
2.1.2 Africa’s development agenda.....	7
2.2 Africa’s vulnerability and the risks and causes of disasters.....	9
2.3 Africa’s disaster profile: magnitude and impact	12
2.3.1 Overview of the occurrence, magnitude and impact of disasters in the region.....	12
2.3.2 Climate-related disasters	19
2.3.3 Geological hazards	21
2.3.4 Biological hazards	22
2.3.5 Astrophysical hazards	25
2.3.6 Human-induced disasters	25
2.3.7 Transboundary disasters.....	26
2.3.8 National and subregional illustrations of socioeconomic and environmental impacts of disasters.....	29
Chapter 3: Resilience measures: policies, strategies and institutional frameworks.....	32
3.1 Regional level	32
3.2 Subregional level.....	37
3.2.1 Overview	37
3.2.2 East African Community.....	37
3.2.3 Economic Community of Central African States	39
3.2.4 Economic Community of West African States	40
3.2.5 Intergovernmental Authority for Development	42
3.2.6 Southern African Development Community.....	43
3.2.7 Arab subregion	44
3.3 National level	45

Chapter 4: Mainstreaming and implementing disaster risk reduction measures in Africa	49
4.1 Overview of the concept of disaster risk reduction mainstreaming and its significance in disaster risk reduction/resilience	49
4.2 Approaches, methodologies, guidelines and tools used for disaster risk reduction mainstreaming.....	54
4.2.1 Synopsis of selected approaches, methodologies, guidelines and tools used for disaster risk reduction mainstreaming	55
4.3 Extent of mainstreaming of disaster risk reduction into development frameworks at regional, subregional and national levels	67
4.3.1 Mainstreaming of disaster risk reduction into development frameworks at the regional level	67
4.3.2 Mainstreaming at the subregional level	77
4.3.3 Mainstreaming of disaster risk reduction at the national level	85
4.4 Implementing disaster risk reduction in Africa.....	99
4.4.1 Implementation of disaster risk reduction measures at regional level	99
4.4.2 Implementation of disaster risk reduction at subregional level	100
4.4.3 Implementation of disaster risk reduction at the national level	101
4.5 Challenges and opportunities in mainstreaming and implementing disaster risk reduction interventions.....	108
4.5.1 Challenges	108
4.5.2 Opportunities.....	109
Chapter 5: Synthesis of good practices in disaster risk reduction mainstreaming and implementation	111
5.1 Introduction	111
5.2 Synopsis of selected good practices in disaster risk reduction mainstreaming and implementation	112
Chapter 6: Conclusions and recommendations	132
6.1 Conclusions	132
6.2 Recommendations	133
References.....	137
ANNEXES	143
Annex 1: List of institutions and persons consulted.....	143
Annex 2: Questionnaire	145
Annex 3: Guidelines and Tools for Mainstreaming Disaster Risk Reduction.....	150

List of Tables

Table 1: Growth in gross domestic product in Africa (percentage) by region and country grouping.....	4
Table 2: Projections of population and gross domestic product in Africa, 2010-2040.....	5
Table 3: Disasters ranked according to reported (a) deaths and (b) economic losses (1970-2012).....	13
Table 4: Impact of disasters by event 1980-2008	14
Table 5: Overview of disasters in West Africa subregion (1990- 2012)	16
Table 6: Timeline of previous Ebola virus disease outbreaks	23
Table 7: Flood hazards in Southern Africa 1980-2013.....	30
Table 8: Summary of disaster risk reduction frameworks and institutions.....	45
Table 9: Priorities of the Hyogo Framework for Action and the Africa Regional Strategy for Disaster Risk Reduction.....	53
Table 10: Africa's projected infrastructure needs.....	72
Table 11: Summary of National Hyogo Framework for Action Progress Reports for selected countries.....	106

List of Figures

Figure 1: Percentage of disaster events, by disaster type (Total = 1,319 disasters (1970-2012)).....	15
Figure 2: Percentage of reported people killed, by disaster type (1970-2012)	15
Figure 3: Estimated economic damages reported, by disaster type (1970-2012)	16
Figure 4: Percentage of disaster events by disaster type (1990-2012)	17
Figure 5: Percentage of deaths in ECOWAS by disaster Type (1990-2012)	17
Figure 6: Areas reporting flood effects associated with Cyclone Eline, January 2000.....	27
Figure 7: Cholera/acute watery diarrhoea outbreaks in Southern Africa (2008-2009).....	29
Figure 8: Mainstreaming disaster risk reduction into the development process	50

List of Boxes

Box 1: Disaster Occurrences in SADC 1980-2013.....	17
Box 2: ECOWAS Disaster Profile.....	18
Box 3: Disaster Profile of IGAD subregion.....	18
Box 4: Projected impact of Ebola virus disease on development.....	24
Box 5: Mozambique Floods, 2000.....	29
Box 6: Strengthening Integrated Risk Governance	51
Box 7: Implementation of the Integrated Food Security Phase Classification in Africa	57
Box 8: Coordination and decentralization as an approach to mainstreaming drought in the Niger.	64
Box 9: Implementation of disaster risk reduction at the subregional level	101
Box 10: Definition and criteria for selection of good practices.....	111

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Acronyms

ACMAD	Africa Centre for Climate and Meteorological Application for Development
AfDB	Africa Development Bank
AIDA	Africa Industrial Development Plan
AMESD	African Monitoring of the Environment for Sustainable Development
CAADP	Comprehensive Africa Agriculture Development Programme
CILSS	Permanent Interstate Committee for Drought Control in the Sahel
CCA	Common Country Assessment
COMESA	Common Market of East and Southern Africa
EAC	East African Community
ECA	Economic Commission for Africa
ECCAS	Economic Community of Central African States
ECOWAP	West African Agricultural Policy of the Economic Community of West African States
ECOWAS	Economic Community of West African States
EM-DAT	The OFDA/CRED International Disaster Database
FAO	Food and Agriculture Organization of the United Nations
GAR	Global Assessment Report
GFDRR	World Bank Global Facility for Disaster Reduction and Recovery
GHACOF	Greater Horn of Africa Climate Outlook Forum
GDP	Gross Domestic Product
HIV	Human Immunodeficiency Virus
IGAD	Intergovernmental Authority for Development
NADMO	National Disaster Management Agency
NEPAD	New Partnership for African Development
NEMA	National Emergency Management Agency
NGO	Non-Governmental Organization
NPCA	NEPAD Planning and Coordination Agency
OAU	Organization of African Unity
OAS	Organization of American States
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
OIC	Organization of Islamic Cooperation
PDNA	Post Disaster Needs Assessment
PIDA	Programme for Infrastructure Development in Africa
RIASCO	Regional Inter-Agency Standing Committee
PRSP	Poverty Reduction Strategic Paper
SADC	Southern Africa Development Community
SARCOF	Southern Africa Climate Outlook Forum
SIDS	Small Islands Development States
UNDP	United Nations Development Programme
UNDAF	United Nations Development Assistance Framework
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNISDR	United Nations Office for Disaster Risk Reduction
VCA	Vulnerability Capacity Analysis
WFP	World Food Programme
WMO	World Meteorological Organization.
WTO	World Trade Organization

Glossary/definitions of terms

Agricultural drought: An agricultural drought is the impact of meteorological droughts and hydrological droughts on crop yields. This kind of drought is associated with extreme heat. It occurs when extended dry periods and general lack of rainfall result in a lack of moisture in the root zone of the soil. This severely damages the plants that live in the area.

Complex emergency: A humanitarian crisis in a country, region or society where there is a dramatic disruption in the political, economic and social situation resulting from internal or external conflict, perhaps combined with natural disaster, which seriously disrupts the population's capacity to survive and the national authorities' ability to respond, and which requires a consolidated multisectoral international response.

Disaster: A serious disruption of the functioning of a community or society causing widespread human, material, economic or environmental losses, which exceed the ability of the affected community/society to cope using its own resources.

Disaster contingency plan: To address a disaster or impending disaster within a finite time, such as from early warning to response to recovery, including mechanisms for generation of disaster-specific operational plans.

Disaster preparedness strategy: A broad exercise which sets out objectives for disaster preparedness in a country or region, reviews the status of disaster preparedness capacities in relation to those objectives, and identifies the measures that must be taken to maintain and enhance those capacities in order to meet the objectives.

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

Disaster risk management: The systematic process of using administrative directives, organizations, and operational skills and capacities to implement strategies, policies and improved coping capacities in order to lessen the adverse impacts of hazards and the possibility of disaster.

Disaster risk reduction: The concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events.

Drought: Naturally occurring phenomenon that exists when precipitation has been significantly below normal recorded levels causing a serious hydrological imbalance that adversely affects land resource production systems.

Early warning: Provision of early and relevant information on potential or actual disasters, normally involving monitoring hazards, especially in relation to communities or areas known to be vulnerable to their effects, so that more timely and effective response measures can be taken.

Emergency: An extraordinary situation in which people are unable to meet their basic survival needs, or there are serious and immediate threats to human life and well-being.

Geological hazard: Geological process or phenomenon 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.

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.

Hydrological drought: Occurs when there are critically low groundwater tables and reduced river and stream flow. Low wintertime snow accumulation in higher elevations can result in this type of drought in nearby lowlands. Hydrological droughts are distinguished by a reduction in water resources in reservoirs, lakes, rivers, underground aquifers and streams.

Mitigation: Short and long term actions, programmes or policies implemented in advance of a natural hazard or in its early stages, to reduce the degree of risk to people, property, and productive capacity.

Natural hazard: Natural process or phenomenon 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.

Preparedness: Advance measures to establish capacities and mechanisms to minimize adverse impacts of disasters if and when they do occur, and so reduce the intensity or scale of any resulting emergency.

Prevention: Measures designed to prevent hazards (natural or sociopolitical events and processes) resulting from disasters.

Rehabilitation, reconstruction and recovery: Measures to help restore the livelihoods, assets and production levels of emergency-affected communities, to rebuild essential infrastructure, production capacities, institutions and services destroyed or rendered non-operational by a disaster, and to help bring about sustainable development by facilitating the necessary adjustments to the impact of the disaster and improving on the *status quo ante* where possible.

Relief: Emergency provision of assistance to save lives in the immediate wake of a disaster. This includes search and rescue, evacuation, distribution of food and water, temporary provision of sanitation, health care and shelter, and the restoration of immediate personal security. The definition may include '*agricultural relief*', referring to agricultural rehabilitation assistance provided on an emergency basis.

Resilience: The ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions.

Response: Actions taken immediately before, during or directly after a disaster to reduce impacts and improve recovery.

Risk: The probability of harmful consequences or loss resulting from the interaction between natural hazards and vulnerable conditions of property and people.

Risk assessment: A methodology to determine the nature and extent of risk by analysing potential hazards and evaluating existing conditions of vulnerability that together could potentially harm exposed people, property, services, livelihoods and the environment on which they depend.

Technological hazard: A hazard originating from technological or industrial conditions, including accidents, dangerous procedures, infrastructure failures or specific human activities, that may cause loss of life, injury, illness or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage.

Vulnerability: A set of conditions resulting from physical, social, economic and environmental factors, which increase the susceptibility of a community to the impact of disasters. Vulnerability also refers to the characteristics of a person or group in terms of their capacity to anticipate, cope with, resist and recover from the impact of a natural hazard.

(UNISDR, 2009)

Executive Summary

1. Introduction

This Regional assessment and good practice synthesis report on mainstreaming and implementing disaster risk reduction and management in Africa was prepared within the framework of the United Nations Development Account (UNDA) project on mainstreaming disaster risk reduction in national and regional development strategies in support of efforts to meet the Millennium Development Goals and attain sustainable development goals in Africa. The project was jointly conceived by the Economic Commission for Africa (ECA) and the United Nations Office for Disaster Risk Reduction (UNISDR).

The report was commissioned jointly by ECA and UNISDR in partnership with the African Union Commission and the United Nations Development Programme (UNDP). It presents findings on the assessment of progress and experiences in mainstreaming disaster risk reduction measures into regional, subregional and national development frameworks and implementing such measures in Africa. It also provides a synthesis of good practices, including the application of various approaches, tools, methodologies and guidelines for mainstreaming and implementing disaster risk reduction measures.

The findings in the report were disseminated at the pre-conference event on “Disaster Risk Reduction Mainstreaming and Investment for Resilient Structural Transformation in Africa”, which was held in Abuja, Nigeria, in May 2014. The event was organized jointly by ECA, UNDP and UNISDR in the lead up to the Fifth Africa Regional Platform.

2. Hazards and disasters in Africa and their impacts

Disasters are increasing in number, frequency and severity in Africa as a result of the escalation of hazards, particularly droughts, floods and cyclones. These hazards are predicted to increase with the impact of climate change, which will further worsen the incidence of associated disasters in the region. In addition to disasters related to hydrometeorological events, various parts of the African region also experience geological hazards such as earthquakes and volcanoes. Among the other common disasters experienced in Africa are epidemics, storms, wildfires, extreme heat waves, insect infestation as well as mass movements caused by both dry and wet weather events. The largest outbreak of Ebola that began in Guinea in March 2014 and spread to Sierra Leone and Liberia should now be considered as one of worst epidemic threats in Africa. While these events are indeed on the increase in Africa and awareness of them and related scientific knowledge are both growing, action to address disaster risk in a proactive manner continues to lag behind in Africa. Implementation of strategies and policies may be impeded due to a lack of resources and capacity. Indeed it has been noted that “at present, African populations lack the robust coping mechanisms and safety nets to deal with extreme weather events sparked by climate change. Governments are therefore urged to enhance the adaptive and coping capacities of communities and their disaster management and response capacities.” (African Union Commission, 2013). Recognition of these disaster challenges needs to be seen by governments as an opportunity to reduce disaster risk by adapting development instruments, such as national public investment planning systems, social protection mechanisms, and national and local infrastructure investments. (UNISDR, Global Assessment Report on Disaster Risk Reduction, 2011).

Vulnerability

The main disaster vulnerability factors for Africa are poverty, environmental degradation, poor social and economic infrastructure, poor health status, and poor urban planning and development. Environmental risks contribute to about 28 per cent of Africa's disease burden. Africa's vulnerability to climate change is aggravated by the dependence of the majority of its population on environmental and natural resources, such as water-fed agriculture and forests. While the establishment of environment instruments has grown rapidly since 1972, implementation and enforcement of these instruments have lagged behind, leading to the deteriorating state of the environment (African Union Commission, 2013). Clearly, the challenge seems to be capacity to implementation of these environmental management instruments. This requires political will and the investment of adequate resources.

Coastal and marine resources are also at risk from marine pollution. Africa's small island developing States (SIDs) are particularly vulnerable to climate change and face unique constraints in terms of environmental resource management for sustainable development. Urbanization is another source of vulnerability in Africa. Africa is the world's most rapidly urbanizing continent, at a rate of 3.9 per cent per annum. UN-Habitat forecasts that Africa will have more people living in urban than rural areas by 2025, with an increased risk of disasters because the urban infrastructure is unlikely to adequately support population increases that outpace urban growth.

Africa's Disaster Profile

Africa is prone to a wide variety of natural and human-induced hazards and disasters. Phenomena such as floods, hurricanes, earthquakes, tsunamis, droughts, wildfires, pest plagues and air and water pollution combine with vulnerability factors to cause extensive losses to livelihoods and property, and claim many lives. Africa's population, estimated at 1.033 billion in 2010 (African Union Commission, 2013), is growing at a rate of 2 to 4 per cent per annum, so the number of people exposed to natural and human-induced hazards and disasters will continue to increase.

Between 1970 and 2012, 1,319 climate-related disasters occurred in Africa, killing a total of 698,380 people and causing economic losses amounting to \$26.6 billion. In the 1970s, only 86 disasters were recorded, rising to 181 in the 1980s and 309 in the 1990s. In the last decade alone (2000-2010), 627 disaster events were recorded, more than twice the number of disasters between 1990 and 1999 and more than the total of the previous three decades. Floods continue to top the list of disaster events, followed by drought and storms, which are exacerbated by climate change (World Meteorological Organization (WMO), 2014).

The pattern of deaths from disasters in the last four decades shows that such deaths peaked in the 1980s, with about 550,000 deaths recorded, compared to about 120,000 between 2000 and 2009. The 1990s and 2000s witnessed steady declines in fatalities to slightly over 10,000. This has been attributed to improved early warning, preparedness and response (UNISDR, 2011). Early warning in Africa has been strengthened by consensus-

based early warning climate information provide by regional climate outlook forums,² where Africa has been considered a pioneer (WMO, 2014).

Economic losses resulting from climate-related disasters on the other hand appear to have remained constant, at \$5.7 billion in the 1970s, and \$6.2 billion, \$6.3 billion and \$6.1 billion in the 1980s, 1990s and 2000s, respectively. Except for the last decade, where floods caused the most damage, most economic losses appear to have resulted from a combination of drought and storm events. Although it is not clear why the losses have remained almost constant over the years, the United Nations Global Assessment Report on Disaster Risk Reduction 2013 (Global Assessment Report) concluded that direct and indirect losses from natural hazards of all kinds have been underestimated by at least 50 per cent. Therefore, the figures may not necessarily reflect the true state of affairs.

It is clear that disaster risk reduction efforts have had most impact on the reduction of deaths from disasters, as a result of strengthened early warning systems and increased public awareness campaigns. Economic losses from disasters have remained a challenge, confirming the conclusion of the third Global Assessment Report that, in terms of the priorities of the Hyogo Framework for Action, the least progress has been made in increasing investment in reducing disasters.

3. Policies, strategies and institutional frameworks for disaster risk reduction in Africa

The African Union Commission and regional economic communities have made substantial progress in advancing the cause of disaster risk reduction and disaster risk management, in terms of policies or strategies and institutional mechanisms. These developments emanate from the mandates provided by the constitutive or normative instruments of the African Union and the relevant regional economic communities.

Africa has a range of instruments that guide the mainstreaming and implementation of disaster risk reduction at the regional level. These include the Africa Regional Strategy for Disaster Risk Reduction and its Programme of Action, policy frameworks on humanitarian action, disaster management and conflict management and the Africa Climate Change Strategy. These instruments address various dimensions of disaster management and humanitarian action and demonstrate the political commitment and policy and strategy efforts to address the challenge of disasters at a continental level.

Nearly all of the five subregions (East African Community (EAC), Economic Community of Central African States (ECCAS), Economic Community of West African States (ECOWAS), the Inter-Governmental Authority for Development (IGAD) and the Southern African Development Community (SADC)) have developed a disaster risk management or disaster management policy or strategy. IGAD and SADC have had disaster risk management policies or strategies since early 2000, and these are being revised to accommodate new developments such as climate change. The SADC strategy is currently under review. The ECOWAS policy that was adopted in 2006 was followed by the development of an Action Plan to implement the policy. The EAC recently adopted a disaster

²Examples in Africa are the Southern Africa Climate Outlook Forum (SARCOF) and the Greater Horn of Africa Climate Outlook Forum (GHACOF).

risk reduction strategy. All of these frameworks derive their mandates from the constitutive acts of the respective regional economic communities. ECCAS has remained rather behind in the development of a comprehensive disaster risk management framework, apart from the Yaoundé Declaration, which is a disaster preparedness and emergency response framework. Due to persistent and recurring internal conflicts, security has been the main priority of most countries in the ECCAS region. Social and economic development issues, including disaster risk reduction, have thus not received the attention they require.

The non-binding nature of these frameworks causes a number of challenges, including enforcement difficulties, weak institutional capacity, poor coordination, and insufficient resources. The political commitment demonstrated through the adoption of the strategies and policies does not appear to be translated into commitment to implementation. As a result, implementation of programmes tends to be dependent on donor support. At the regional level this imposes significant constraints on effective performance of the African Union Commission mandate of coordination, advocacy and capacity development.

4. Mainstreaming and implementation of disaster risk reduction

Mainstreaming of disaster risk reduction can be defined as any actions, processes and practices that take into consideration and integrate risk factors and the possible effects of disasters, and that identify and promote disaster risk reduction as a key social, economic and developmental agenda. Mainstreaming seeks to integrate disaster risk reduction into conceptual, strategic frameworks as well as institutional thinking, and to translate these into programmes and activities at regional, national and local levels.

Mainstreaming disaster risk reduction is a complex process. It requires the tackling of disaster-related challenges on a variety of levels and within the social, economic, environment and development sectors. There are at least three key aspects that need consideration to effectively mainstream disaster risk reduction. Firstly, it requires a great awareness of the hazard-prone nature of a region or country and of the disaster challenges they face, together with knowledge of the human, social and economic impacts of these disasters and their overall effect on development. Secondly, it requires the establishment of an enabling environment for mainstreaming disaster risk reduction, by integrating disaster risk reduction in legislation, disaster risk management strategies and plans, appropriate institutional arrangements and capacity, framework and budgetary considerations. Thirdly, it requires a variety of tools, methodologies and skills to operationalize it.

The main tools that are common used for mainstreaming disaster risk reduction include:

- (i) Hazard and vulnerability assessment
- (ii) Vulnerability and capacity analysis
- (iii) Capacity development
- (iv) Analysis of disaster loss (Post Disaster Needs Assessment and other tools)
- (v) Participatory assessment methodologies
- (vi) Guidelines for disaster risk reduction mainstreaming
- (vii) Monitoring and evaluation – through project design, logical frameworks, and project appraisals

Agenda 2063 and the African Union Commission strategic frameworks acknowledge the importance of addressing the disaster challenge, and therefore provide guidance for the mainstreaming of disaster risk reduction into other sectors. The New Partnership for Africa's Development (NEPAD) Coordinating and Planning Agency has also developed some guidelines for mainstreaming disaster risk reduction into the Comprehensive Africa Agriculture Development Programme (CAADP). At the sectoral level, the Programme and the Africa Social Policy have mainstreamed disaster risk reduction. With these few exceptions, however, disaster risk reduction is yet to be mainstreamed into many of the major, regional sectoral development programmes such as the African Peer Review Mechanism and others related to infrastructure and industry.

The main reason for lack of mainstreaming in regional sector frameworks appears to be a lack of awareness of the disaster risk reduction frameworks, such as the Hyogo Framework for Action and the Africa Regional Strategy for Disaster Risk Reduction and its Programme of Action.

In terms of mainstreaming disaster risk reduction into sectoral development strategies, at the subregional level, the EAC seems to have made the most progress in their major frameworks. Progress has also been made in the Horn of Africa with regard to mainstreaming drought, through the Nairobi Strategy – the Horn of Africa Initiative and the resulting Intergovernmental Authority on Development (IGAD) Drought Disaster Resilience and Sustainability Initiative. The IGAD Disaster Response Fund is an initiative that is both concrete and beneficial in building resilience.

Mainstreaming of disaster risk reduction in ECOWAS and SADC has remained limited. This has been attributed to a lack of awareness of disaster risk reduction frameworks and silos syndrome at the subregional level. However it should be noted that most sector documents reviewed in these regions preceded the Hyogo Framework for Action and the Africa Regional Strategy on Disaster Risk Reduction, and adoption of disaster risk reduction as a global priority. It is vital to increase awareness of these frameworks and urge sectors to review their frameworks to integrate disaster risk reduction concerns.

The capacity of disaster risk reduction units in the regional economic communities and subregional platforms will need to be strengthened, particularly in terms of human, material and financial resources, to enable them to provide coordination and technical support for mainstreaming of the issue across different sectors.

Countries that experience regular disasters such as cyclones, drought, earthquakes and floods appear to have made more concerted efforts to put in place structures and systems for hazard and risk assessment, vulnerability assessment and early warning, together with education and public awareness programmes. These include Mauritius for cyclones, Botswana and Ethiopia for drought, Mozambique for floods and Algeria for earthquakes. While disaster risk reduction elements are generally present in the frameworks of key sectors such as agriculture, environment, human settlements and health, these do not appear to derive from a conscious integration of disaster risk reduction concepts and practices. Rather they reflect the institutional mandates and objectives of these sectors, which are critical for disaster risk reduction efforts.

5. Good Practices

The study has documented a number of good practices in the mainstreaming of disaster risk reduction using the various tools. These good practices are drawn from across the African region, with some interesting examples from other regions. The good practices reflect geographical coverage and representation, as well as a variety of themes such as institutional aspects, gender dimensions and sectoral representation. The good practices highlighted also cover a range of stakeholders involved in championing the mainstreaming and implementation of disaster risk reduction measures. These include governments providing leadership, government agencies, United Nations agencies, partners, NGOs, faith-based organizations and local communities.

6. Conclusions and Recommendations

Conclusions

Disasters are increasing in number, frequency and severity in Africa because of the escalation of hazards such as droughts, floods, storms, wildfires and cyclones in particular. The vulnerability of Africa to these disasters is exacerbated by poverty and low levels of socioeconomic development.

Situational analysis of Africa today reveals that the continent has made steady progress in many spheres, spanning economic growth, social development and democratization, development of human capital and fostering peace and stability.

Rapid economic growth and overall development will contribute significantly to building resilience and reducing the disaster burden and the impact of climate change. At the same time, however, these developments will need to be protected by integrating disaster risk reduction measures into Africa's growth and development strategies. Addressing poverty, underpinned by resilience-informed policy and programmes, will continue to be the number one priority in the development agenda. This is indeed the core of the disaster risk reduction mainstreaming agenda – building the resilience of nations and communities and protecting development gains.

At the regional and subregional levels, frameworks such as policies, strategies and in some case plans have been developed which provide a conducive environment for mainstreaming. In some regional economic communities, notably ECOWAS and SADC, policies and frameworks in sectors such as environment, agriculture and health already integrate key disaster risk reduction elements. However, as already noted, these may largely reflect sectoral mandates. There is little reference to or evidence of awareness of global, regional and subregional disaster risk reduction frameworks and concepts. In some cases, however, for example in the CAADP and many EAC sectoral approaches, the mainstreaming of disaster risk reduction has been consciously undertaken in response to the guidance of global and regional frameworks.

At the national level, less than 50 per cent of the 54 African countries have either a policy or legislation on disaster risk management. In the countries that have the policies or legal frameworks, they are mainly focused on disaster preparedness and response, with a very slow shift towards disaster risk reduction.

At regional, subregional and national levels, institutional capacity remains a major challenge and priority will need to be given to capacity development if mainstreaming and implementation of disaster risk reduction is to be enhanced.

Overall, despite the considerable progress in the development of strategic frameworks, the existence of variety of tools and approaches for mainstreaming, and the existence of models and good practices, the conclusion from the review is that the integration/mainstreaming of disaster risk reduction across Africa has been rather limited. The main gaps and challenges include a lack of political commitment, insufficient awareness and understanding of global and regional disaster risk reduction frameworks, weak institutional capacity of disaster risk reduction structures at all levels and weak coordination mechanisms. A number of tools and methodologies, including guidelines for the mainstreaming of disaster risk reduction, are available. However, there is limited awareness of these tools and most have not been put to use at the subregional and national levels. In addition, there has only been a limited shift from reactive emergency preparedness mode to a proactive disaster risk reduction approach. With competition for scarce resources with other social and development imperatives, disaster risk reduction has not received high priority in most countries in the allocation of resources and budgets. In addition with the eagerness of humanitarian agencies to come to the aid of countries affected by disasters, there is no sense of urgency to invest in disaster risk reduction. Moreover, there is lack of credible disaster loss data to make an economic case for convincing governments to invest in disaster risk reduction.

Nevertheless, there are many opportunities that favour enhanced and scaled up mainstreaming and implementation of disaster risk reduction at the regional, subregional and national levels.

Recommendations

Human, institutional and regulatory capacities for disaster risk reduction in Africa

(a) Capacity to develop, coordinate and achieve effective implementation of disaster risk reduction policies, legislation and programmes at the various levels should be strengthened. Such capacity should include the capability to harmonize these frameworks with those at regional and subregional levels, where applicable.

(b) Institutional capacity for the mainstreaming of disaster risk reduction should be strengthened at all levels. The following needs to be undertaken in this regard:

- (i) Development and implementation of tailored capacity development programmes, including training on disaster risk reduction mainstreaming and investment should be carried out for government planning, disaster risk reduction and sectoral institutions/agencies, NGOs and the private sector.
- (ii) The development and use of guidelines, tools and methodologies on the mainstreaming of disaster risk reduction, should be strengthened and scaled up through targeted and results-oriented initiatives. In this regard, the African Union Commission and the NEPAD Planning and Coordination Agency, in partnership with the regional economic communities, should make the existing disaster risk reduction mainstreaming guidelines readily available and create

awareness of these guidelines. Examples of such guidelines are Guidelines for mainstreaming risk assessment into development in Africa (African Union/UNISDR, 2004). Moreover, the African Union Commission should partner with the African Development Bank (AfDB) and United Nations agencies to support regional economic communities and member States in the adaptation and application of these guidelines at the subregional, national and subnational levels. Such support should involve awareness-raising and skills development, taking into account good practices on disaster risk reduction mainstreaming and implementation.

- (iii) Disaster risk assessment and profiling as well as strategic information management and dissemination for disaster risk reduction mainstreaming should be strengthened, with special attention paid to key sectors for economic transformation.

Integrating disaster risk reduction and climate change adaptation

(a) Disaster risk reduction and climate change adaptation should be undertaken in an integrated and coordinated manner to facilitate coherent actions and reduce duplication of efforts and resources for enhancing the resilience of highly vulnerable groups and priority sectors. In this context, strong emphasis should be placed on promoting institutional frameworks that are adapted to meet the requirements for implementation of disaster risk reduction and climate change adaptation policies. The creation of national agencies in countries such as Ghana and Nigeria could serve as models.

Information management and early warning systems

(a) Strategic disaster risk reduction data centres should be established and strengthened to enhance the collection, management and accessibility of disaster risk reduction information at subregional and national levels. This is crucial to addressing the recurrent challenges in accessing disaster risk information and undertaking timely responses.

(b) A regional early warning system should be established and those at the subregional and national level should be strengthened. Moreover, mechanisms for sharing information and exchange of early warning information between meteorological services and disaster risk reduction agencies and experts should be established and strengthened. This would ensure that appropriate alerts are issued to prevent and mitigate disasters and ensure adequate disaster preparedness in the subregions.

Disaster risk reduction financing and investments

(a) Mechanisms for investment in disaster risk reduction by the private and public sector, public-private partnerships, and development partners should be strengthened and operationalized at all levels in order to increase the mobilization and allocation of financing for disaster risk reduction and response. In particular, the following should be undertaken:

- (i) Planning and budgeting guidelines at the regional, subregional and national levels for all sectors should incorporate criteria for disaster risk reduction measures and funding. Moreover, monitoring and tracking of disaster risk reduction investments, including through use of specific tools, should be

strengthened.

- (ii) Governments should meet their commitments to allocate a percentage of their national budgets to disaster risk reduction;
- (iii) Funds for climate change mitigation and adaptation, green economy, sustainable development or national environment at the regional, subregional and national levels should integrate and prioritize funding for disaster risk reduction;
- (iv) Disaster risk reduction and its financing should be integrated into foreign direct investment guidelines and ventures, and development cooperation frameworks particularly for disaster-prone sectors and areas;
- (v) A regional and subregional resource mobilization approach should be established, rather than ones by individual countries or donors, and promoted to deal with transboundary risks and disasters. Such an approach will enhance coordination, and the efficiency and timeliness of interventions.

Disaster risk reduction governance and accountability

- (a) Disaster risk reduction governance and accountability should be strengthened at the regional level through rationalization of various structures dealing with disaster risk reduction, humanitarian action and conflict.
- (b) Organizations or agencies responsible for disaster risk reduction should be provided with sufficient authority including through strong legislative backing and proper placement in the hierarchy of government or other organisational systems. This is vital in enabling disaster risk reduction lead agencies effectively coordinate disaster risk reduction interventions.
- (c) Disaster risk reduction plans should be developed as integral priorities of key African Union-led frameworks including Agenda 2063, the African Peer Review Mechanism, the Programme for Infrastructure Development in Africa, Accelerated Industrial Development of Africa and the Africa Mining Vision. Given their crucial role in shaping subregional and national development agendas, disaster risk reduction mainstreaming into such strategic regional development frameworks will inspire the replication of disaster risk reduction mainstreaming and interventions at all lower levels.
- (d) Subregional and national platforms should be established and/or strengthened for the advocacy, coordination and integration of disaster risk reduction across various sectors. Moreover, subnational platforms or multi-stakeholder forums should be established and strengthened. Such forums are particularly crucial for municipalities and other urban centres that are expanding in all the countries in the region.
- (e) The post-2015 development agenda and the successor of the Hyogo Framework for Action should incorporate performance targets and indicators on disaster risk reduction in order to promote concrete actions and ensure transparency and accountability on the issue by all stakeholders. In this respect, transparent mechanisms for monitoring, evaluating and reporting performance should be strengthened.

Chapter 1: Introduction

1.1 Background

Disasters are increasing in number, frequency and severity in Africa because of an escalation of hazards, particularly droughts, floods and cyclones. These hazards are predicted to increase with the negative impacts of climate change, which will worsen the incidence of associated disasters in the African region. In addition to disasters triggered by hydrometeorological events, some parts of the African region also experience geological hazards such as earthquakes and volcanoes. Among the other common disasters experienced in Africa are epidemics, storms, wildfires, extreme heat waves and insect infestation, as well as mass movements caused by both dry and wet weather events. Coastal areas are exposed to sea erosion and sea-level rises, with increasing threats to the livelihoods of coastal communities. Although Africa is not prone to major catastrophic disasters such as tsunamis and earthquakes, the continent suffers most from the effects of disasters due to increasing vulnerabilities, driven by poverty, inequality, environmental degradation, unplanned urbanization, exposure to hazardous conditions and locations, weak social organizations and weak governance systems. Small, localized disasters tend to have an impact beyond their magnitude, eroding communities' hard-earned livelihoods, assets and health, which are already threatened by multiple other factors.

This Regional assessment and good practice synthesis report on mainstreaming and implementing disaster risk reduction and management in Africa was prepared within the framework of the United Nations Development Account project on mainstreaming disaster risk reduction into national and regional development strategies in support of efforts to meet the Millennium Development Goals and attain sustainable development goals in Africa. The project was jointly conceived by the Economic Commission for Africa (ECA) and the United Nations Office for Disaster Risk Reduction (UNISDR). The assessment was commissioned jointly by ECA and UNISDR in partnership with the African Union Commission and the United Nations Development Programme (UNDP).

1.2 Objective and scope of the assessment

The report presents findings on the assessment of Africa's progress and experiences in mainstreaming disaster risk reduction measures into regional, subregional and national development frameworks and the implementation of such measures. It also provides a synthesis of good practices within the application of various approaches, tools, methodologies and guidelines for mainstreaming and implementing disaster risk reduction measures.

The findings in the report were disseminated at the pre-conference event on "Disaster Risk Reduction Mainstreaming and Investment for Resilient Structural Transformation in Africa", which was held in Abuja, Nigeria in May 2014. ECA, jointly with UNDP and in partnership with UNISDR, organized the event that was held in the lead up to the Fifth Africa Regional Platform (AfRP5).

1.3 Methodology

The report largely draws from the subregional reports from the Economic Community of West African States (ECOWAS) and the Southern Africa Development Community (SADC) and four national assessments conducted in Malawi, Mozambique, Nigeria and Togo that were commissioned by the project. National progress reports on the implementation of

the Hyogo Framework for Action were reviewed, while key Africa regional sector development frameworks were studied to assess the extent of and gaps in the integration of disaster risk reduction. These frameworks included the Africa Peer Review Mechanism and the New Partnership for Africa's Development (NEPAD) Comprehensive Africa Agriculture Development Programme (CAADP), the Programme for Infrastructure Development in Africa (PIDA) and Accelerated Industrial Development in Africa (AIDA). The review examines the extent to which these frameworks demonstrate awareness of and integrate disaster risk reduction issues. The assessment also involved the following activities:

- (i) Reviews of regional and subregional frameworks on development and disaster risk reduction including statutes, policies, strategies and programmes such as climate change policies, strategies and adaptation frameworks.
- (ii) Development and administration of a questionnaire to gather relevant data and information on disaster risk reduction with a particular emphasis on the scope, tools and approaches used, and best practices and lessons learned in integrating and implementing disaster risk reduction activities.
- (iii) Extensive use of various websites such PreventionWeb.net, UNISDR, the World Bank Global Facility for Disaster Reduction and Response, the United Nations Environment Programme (UNEP), UNDP and others to gather information on tools, approaches and good practices.
- (iv) Use of reports such as the outcome documents of Rio+20, the Global Platform for Disaster Risk Reduction, the Africa Regional Platforms for disaster reduction, and various regional and subregional forums as sources of information on tools and progress in mainstreaming.
- (v) Tools and best practices were largely drawn from the subregional and country case studies, as these provide a strong evidence base. Some examples were drawn from other regions with comparable experiences such as Asia and Latin America
- (vi) The report was also enriched by inputs and comments from the pre-conference event on "Disaster Risk Reduction Mainstreaming and Investment for Resilient Structural Transformation in Africa" in particular, and in the general from the Fifth Africa Regional Platform (AfRP5) held in Nigeria in May 2014. The report also benefited from the insights provided by project partners, ECA, and the peer review process.

1.4 Limitations of the Report

Preparing a regional synthesis report on mainstreaming of disaster risk reduction is mammoth task. There are many dimensions of mainstreaming and a variety of tools and approaches used by multiple actors. The report draws from a variety of sources of information including the reports from subregional and national studies. The subregional and national reports provided a rich source of information and an in-depth analysis of the status of mainstreaming and implementation of disaster risk reduction within ECOWAS and SADC, from which the regional synthesis report has benefited greatly. However, the lack of a uniform format for the presentation of the subregional reports made it difficult to synchronise the data and information systematically. In addition, the lack of responses to the questionnaire

prevented detailed discussion of some regions, such as the Intergovernmental Authority on Development (IGAD). It would also have been useful for preparation of the regional synthesis report to interact with the processes for the development of subregional reports, and in particular, the subregional workshop at which the reports were disseminated. The synthesis report does not do justice in reflecting the depth of first-hand information from the ground. These limitations notwithstanding, being the first regional assessment report on the subject, it should go a long way in informing and increasing our knowledge and providing responses to important questions about disaster risk reduction mainstreaming and implementation in Africa.

1.5 Outline of the report

The report is divided into six main chapters. Following the introduction, which provides the background, objectives and methodology, chapter 2, discusses Africa's vulnerability and disaster profile and associated economic, social and environmental impacts. Chapter 3 presents institutional and strategic frameworks for disaster risk reduction at the regional, subregional and national levels. Chapter 4 provides an assessment of progress in the mainstreaming and implementation of disaster risk reduction measures at regional, subregional and national levels. The chapter also reviews the concept of and approaches to mainstreaming and the tools and methodologies used. Chapter 5 provides a synthesis of good practices such as approaches, methodologies, tools and guidelines used for disaster risk reduction mainstreaming and implementation. The final chapter provides the key conclusions of the assessment and recommendations to enhance disaster risk reduction mainstreaming and implementation in the region.

Chapter 2: Disaster Occurrences and Impact in Africa

2.1 Overview of Africa's economic, social and environmental context

2.1.1 Development status and trends in Africa

Africa covers approximately 20 per cent of the world's land mass and comprises 16 per cent of its population, but only 2.5 per cent of the world's gross domestic product (GDP) (NEPAD Planning and Coordinating Agency and others, 2011). Nevertheless, Africa is now on the path of economic growth and transformation.

According to the Strategic Plan of the African Union Commission 2014-2017, after a dismal performance in the 1980s, when real annual growth of GDP averaged only 1.87 per cent, sub-Saharan Africa's annual growth rate has improved steadily, averaging 2.27 per cent in the 1990s, 4 per cent between 2000 and 2008, and in excess of 6 per cent for the period 2005-2008. Weathering the 2008 global financial and raw materials crisis better than most other regions, Africa achieved aggregate GDP growth of 5 per cent in 2010, with Eastern Africa recording the highest growth of 7.1 per cent, followed closely by ECOWAS with growth of 6.9 per cent, while Southern Africa achieved the lowest growth of 3.5 per cent (African Union Commission, 2013).

Projected growth for the continent was of 3.5 per cent, 4.5 per cent and 4.8 per cent for 2011, 2012 and 2013, respectively, with Western Africa, Eastern Africa and Southern Africa projected at 6.4 per cent, 5.6 per cent and 4.4 per cent growth, respectively (Table 1).

Table 1

Growth in gross domestic product in Africa (percentage) by region and country grouping

	2010	2011	2012	2013
Africa	5.0	3.4	4.5	4.8
Central Africa	5.7	5.1	4.9	4.8
Eastern Africa	7.1	5.0	5.1	5.6
Northern Africa	4.1	0.5	3.1	4.0
Southern Africa	3.5	3.5	4.0	4.4
Western Africa	6.9	6.3	5.9	6.4
Oil Exporting Countries	5.3	2.9	4.7	5.0
Oil Importing Countries	4.5	4.1	4.2	4.7

Source: (African Union Commission, 2013)

Eight African countries were among the world's 20 fastest-growing countries between 2005 and 2009: Angola (1), Ethiopia (3), Uganda (6), Rwanda (9), Sudan (10), Mozambique (15), United Republic of Tanzania (16), and Malawi (20) (IMF, 2011). Short-term growth prospects through 2015 exceed 5 per cent (African Union Commission, 2013).

The PIDA Study Synthesis (NPCA and others, 2011) provides an outlook based on a stretch macroeconomic scenario that mirrors the outstanding performance of countries such as India and Malaysia over the last 30 years. This scenario is seen to be consistent with the assumption behind the Abuja Treaty, namely, that Africa will solve its major sector policy challenges in a satisfactory manner in the next few years and achieve continental integration as well as integration in the world economy.

According to the Study Synthesis, the average growth rate for 53 African countries (GDP-weighted and expressed in U.S. dollars using purchasing power parity (ppp)) is projected to be 6.2 per cent per year between 2010 and 2040, a growth rate that implies that over 30 years, the GDP of African countries will on average be multiplied six-fold. Thirty-seven countries should exhibit a growth rate higher than 5 per cent per year on average for the period 2008-40. Twenty-six African countries should record an average growth higher than the continental average. Eight countries will exhibit an average growth rate of between 5 per cent and 6 per cent per year. At the back of the pack, seven countries are expected to grow at a rate of less than 4 per cent per year (NEPAD, African Union Commission and AfDB, September 2011).

Table 2 depicts projections of Africa's population figures and the GDP that will be realized with increasing population growth. By 2040, with a GDP of over \$20 trillion and per capita income averaging over 11,000 dollars, more than 50 per cent of Africa's population will live in urban areas (African Union Commission, 2013).

Table 2

Projections of population and gross domestic product in Africa, 2010-2040

	2010	2020	2030	2040
Population (millions)	1,033	1,276	1,524	1,770
Urban population (millions)	413	569	761	986
GDP (2005 ppp \$ billions)	3,300	6,010	11,639	20,334
GDP per capita (\$)	3,190	4,709	7,636	11,490

Source: African Union Commission, 2013.

Notable developments, progress and challenges are reviewed in the African Union Commission Strategic Plan 2014-2017 (African Union Commission, 2013), particularly with regard to a number of areas such as infrastructure, development and sustaining human capabilities through increased access to health care and education. A summary of this information can be found below.

Africa continues to make good progress in improving access to education and in promoting girls education, with performance closely matching that of India. At the primary level, rapid progress is being made and many African countries are on track to achieve the MDG goal on net enrolment of 95 per cent, with the aggregate net primary enrolment for Africa reported to have increased from 64 per cent in 2000 to 84 per cent in 2009, and most countries (including fragile post-conflict countries) are on track to meet the target by 2015.

The health status of the African population, however, continues to be a source of major concern. Even though effective public health interventions are available, low coverage and underfunded health systems continue to be serious challenges. Nevertheless, progress in general has been significant. According to the African Union report, deaths linked to malaria have fallen by 33 per cent since 2000, while the share of households owning at least one mosquito net in Africa has risen from 3 per cent in 2000 to 50 per cent in 2011. The proportion of malaria-exposed people protected by indoor residual spraying for malaria rose from less than 5 per cent in 2000 to 11 per cent in 2011. AIDS-related deaths fell by 30 per cent between 2004 and 2010 and more people are living with HIV/AIDs due to access to treatment. Moreover, annual infections fell by 21 per cent between 1997 and 2010 and HIV rates have fallen in 21 African countries. Deaths from tuberculosis have declined by more than a third since 1990. The existence of The Global Fund to Fight AIDS, Tuberculosis and

Malaria, the Abuja Declaration, the Stop TB Partnership, the African Leaders Malaria Alliance and the Roll Back Malaria Partnership points to strong political commitment to these issues. However, on the negative front, the advent and current rapid spread of the deadly Ebola virus disease epidemic in Guinea, Liberia and Sierra Leone has dramatically exposed the weaknesses and poor state of the public health systems in these countries (World Health Organization (WHO), 2014).

Progress made by Africa with respect to MDG Goal 4 (reduce child mortality) and Goal 5 (improve maternal health) illustrates other key challenges faced by African countries. Out of the 26 countries worldwide with under-five mortality rates above 100 deaths per 1,000 live births in 2010, 24 were in Africa. The average rate of reduction in child mortality in Africa doubled from 1.2 per cent in the period 1990-2000 to 2.4 per cent in the period 2000-2010, with Eritrea, Liberia, Madagascar, Malawi, Niger and United Republic of Tanzania the top performers in that regard. The overall decline, however, is insufficient for Africa to meet the MDG target by 2015.

According to the PIDA report, sub-Saharan Africa lags behind other regions in terms of infrastructure, with a lower density of paved roads, coverage of telephone landlines and power generation capacity. PIDA was thus initiated as a continental framework by the African Union Commission, the NEPAD Planning and Coordinating Agency and the African Development Bank and adopted by the African Heads of State in January 2012 to address the deficit in infrastructure development.

Overall, despite the progress registered on the economic front, human development remains a challenge for Africa. Across all dimensions, Africa had the lowest human development index indicators of any region. Nevertheless, African countries (Rwanda, Sierra Leone, Mali, Mozambique, Burundi and Niger) were also among the top ten human development index movers between 2000 and 2010 (African Union Commission, 2013).

In the area of animal health, global eradication of rinderpest has been achieved. Credit and international recognition for the eradication of the disease has been accorded to the contributions by the African Union Commission as a whole and by the Department of Rural Economy and Agriculture, in particular through its Technical Offices, the Inter-African Bureau for Animal Resources and the Pan African Veterinary Vaccine Centre (African Union Commission, 2013).

Agricultural productivity in Africa remains among the lowest in the world. Average yields in Africa are estimated to be about a quarter of other major developing regions, and have barely increased in the last three decades. Largely due to such an underperformance, Africa finds itself as the continent which fails to grow enough food to feed its own citizens. Hunger and poverty are prevalent and an estimated 240 million Africans do not eat well enough to maintain their health and well-being.

Despite huge agricultural potential in terms of available arable lands, biodiversity and natural resource endowments, outstanding challenges in exploiting this potential include boosting investment in agriculture, particularly with regard to allocation from national budgets to meet the 10 per cent target set under CAADP; and the implementation of measures to improve agricultural productivity through, policy, institutional and technological initiatives.

The state of rural infrastructure is so poor that, as previously noted, road density in Africa remains low. The average transport cost per kilometre for the distance between Douala and N'Djamena (Cameroon-Chad) is almost three times that of the same distance in the United States of America and twice that in Western Europe.

The African Union Commission Strategy also notes that there has been steady deterioration in the state of the environment in Africa since 1972, despite tremendous strides made in institutional and legal terms. There are significant threats to atmospheric and fresh water resources, land, coastal marine environments, forests and woodlands and biodiversity. Pollution levels have grown as a result of the quest to industrialize and broaden Africa's manufacturing base, which has not paid much attention to addressing the requirements of environmental impact assessments. While the establishment of environment institutions has grown rapidly, the African Union has acknowledged that the implementation of legislative sanctions has not proceeded with the same pace (African Union Commission, 2013). While no particular reasons are given to explain this, corruption can be identified as one of the main causes of the dismal record in enforcement of legislative sanctions. Corruption among public officials can be said to contribute significantly to this state of affairs as such officials, for example, might take bribes to overlook building standards and ignore recommendations of environment impact assessments in the approval of infrastructure and other building projects.

There have nevertheless been some areas of progress. One of these is the mainstreaming of gender. The adoption of African Union Gender Policy in 2009, the declaration by the Assembly of 2010-2020 as the African Women's Decade, the development of the 10 Year Gender Action Plan and Road Map, the Fund for African Women and the location of the Directorate of Women, Gender and Development in the Office of the Chairperson of the Commission are all efforts to address gender inequalities and enhance the status of women. Youth Development has also been promoted through the African Youth Charter and the African Youth Decade 2009-2018 Plan of Action, a programme on youth empowerment through non-formal and technical and vocational education and training. The extent to which these frameworks are being implemented is yet to be determined.

2.1.2 Africa's development agenda

The African Union has developed a number of strategic frameworks and institutional mechanisms to spearhead Africa's transformation and ensure the region's greater participation in the global economy. Some of these are briefly outlined below. The extent to which disaster risk reduction was mainstreamed in these mechanisms and strategic frameworks is dealt with in later chapters of the report.

Regional development programmes

Agenda 2063: the Africa we want: provides a framework to galvanize and unite in action all Africans and the Diaspora around the common vision of a peaceful, integrated and prosperous Africa. As an overarching framework, Agenda 2063 provides internal coherence to various sectoral frameworks and plans adopted under the Organisation of African Unity and the African Union. It links and coordinates Africa's many national and subregional frameworks into a common drive for continental transformation, towards the achievement of the vision of the African Union.

Comprehensive Africa Agriculture Development Programme (CAADP): is Africa's flagship programme and seeks to mobilize political commitment for increased investment in agriculture and calls for the allocation of at least 10 per cent of national budgets to agriculture.

Programme on Infrastructure Development in Africa (PIDA): provides a continental framework for infrastructure development covering the transport, energy, telecommunication/information and communication technologies (ICT) and water sectors. The PIDA Priority Action Plan, to be implemented during the period 2012-2020, is made up of 51 programmes and projects at an estimated investment cost of \$68 billion or about \$7.5 billion annually. The Action Plan will guide industrial development in Africa.

African Union Gender Policy: prioritizes gender issues and women's empowerment. Gender issues are also present in the African Youth Charter and Youth Decade Plan of Action (2009-2018).

African Peer Review Mechanism: is self-monitoring mechanism aimed at strengthening governance and accountability. It is voluntarily acceded to by member States of the African Union with the aim of fostering the adoption of policies, standards and practices that will lead to political stability, high economic growth, sustainable development and accelerated regional and economic integration. The mechanism permits performance of governments and states to be assessed on a range of issues with emphasis on accountability namely: democracy and political governance; economic governance and management; corporate governance; and socio-economic development.

Other development frameworks: these include the Africa Mining Vision, the Africa Water Vision for 2025, Africa's Accelerated Industrial Development Action Plan, NEPAD Action Plan for the Environment Initiative, and approaches related to education, among others. The African Union therefore has in place the policy and strategic instruments and institutional mechanisms to spearhead Africa's transformation and greater participation in the global economy.

Institutional framework for Africa's transformation

The African Union has established a number of institutional structures to support Africa's development agenda (African Union Commission, 2013). These include:

African Union: the Union is charged with spearheading Africa's rapid integration, prosperity and sustainable development by promoting political and economic unity, solidarity, cohesion and cooperation among the peoples of Africa and African States, as well as developing new partnerships worldwide. The African Union vision is to “*build an integrated, prosperous and peaceful Africa, an Africa driven and managed by its own citizens and representing a dynamic force in the international arena.*”

African Union Commission: provides the secretariat for the African Union. It plays a pivotal role in facilitating the integration of the continent. Harmonization of coordination and of policies is particularly relevant for the mainstreaming of disaster risk reduction.

NEPAD Planning and Coordinating Agency: the Agency has a specific institutional mandate to address Africa's development and transformation challenge. As a technical body of the African Union, the Agency's mandate is to facilitate, coordinate and translate strategy and policy frameworks into concrete programmes; mobilize resources and partners' support

for the implementation of continental and regional priority programmes and projects; and monitor and evaluate their implementation in close collaboration with regional economic communities and member States.

Regional economic communities: considered the building pillars of the African Union, these provide inputs on subregional priorities into the development of continental frameworks and translate these continental frameworks into concrete subregional programmes in close collaboration with the NEPAD Planning and Coordinating Agency and member States. Regional economic communities are also responsible for monitoring and evaluating the implementation of regional programmes and mobilizing resources for these programmes in close collaboration with the Agency, while providing technical support to member States in the implementation of regional programmes. They also provide regular progress reports on the implementation of Regional Programmes.

Member States have the ultimate responsibility to integrate continental and subregional policy, legal and strategic frameworks into national development plans and laws and to ensure implementation and monitoring at the national level.

Strategic partnerships: the African Union Commission has established extensive strategic partnerships across the world such as the Africa-India Forum Summit, the Africa-South America Summit, the Africa-European Union Partnership, Africa-Turkey Summit, African Union Commission-Australia Cooperation, African Union Commission-United States of America Cooperation, Afro-Arab Cooperation, African Union Commission-Organisation of Islamic Cooperation Secretariat Partnership, African Union Commission-Organisation of American States General Secretariat Partnership, Africa-Japan partnerships and cooperation between the African Union Commission and the Commonwealth Secretariat. All these are designed to leverage resources and technology to support Africa's development.

In close collaboration with ECA, the African Development Bank and other partners, efforts have been made to mobilize governments to promote common African positions in multilateral and regional forums, including the development of common African positions on economic partnership agreements, the World Trade Organization and the African Growth and Opportunity Act, climate change and sustainable development (Rio+20).

The institutional structures outlined above are the mechanisms through which the African Union implements its development programmes to contribute to the welfare of the African people, as well as placing the region competitively in global arena. They also represent mechanisms and opportunities for the mainstreaming of disaster risk reduction into Africa's development and transformation agenda.

2.2 Africa's vulnerability and the risks and causes of disasters

Absolute poverty and low levels of socio-economic development with the associated hunger drive Africa's vulnerability to disasters. The underlying disaster risk factors include environmental degradation, including land degradation, poor social and economic infrastructure, poor health status and poor urban development.

Poverty: Poverty remains the main source of vulnerability and main driver of disaster risk in Africa. Africa is 41 per cent short of the 2015 MDG target on reducing poverty, compared with 25 per cent for South Asia and 6 per cent for Latin America. Although Africa

has experienced a decline in poverty rates and in the number of absolute poor, the rate of decline is too slow to achieve the MDG target by 2015 (African Union Commission, 2013).

Although poverty in Africa is concentrated in rural areas, there is now a growing phenomenon of rising urban poverty as rural populations migrate to urban areas in search of better opportunities; on arrival they often find themselves living in deplorable urban conditions. In addition to persistent poverty, there has also been slow progress in reducing the proportion of people who suffer from hunger. The 2011 Global Hunger Index of International Food Policy Research Institute reports an 18 per cent improvement in Africa between 1990 and 2011, compared with 25 per cent in South-east Asia and 39 per cent in North Africa (African Union Commission, 2013). Poverty exposes communities to the harsh effects of natural disasters, due to low resilience, inadequate coping capacity and the destruction of livelihoods.

Inadequate and poor infrastructure: The state of rural infrastructure is so poor that road density in Africa is 2.5 times less than that Latin America and 6 times less than in Asia. The average transport cost per kilometre for the distance between Douala and N'Djamena (Cameroon-Chad) is almost three times that of the same distance in the United States of America and twice that in Western Europe. These high costs apply equally to power, water, telephone, internet and other essential services. These undermine intra-African trade, productivity and competitiveness. Poor infrastructure makes it difficult to access affected communities during disasters, increases the costs of providing relief and also increases the costs of procuring goods from local markets.

Environmental degradation: Africa's vulnerability to natural disasters is aggravated by environmental factors. The African Union Strategic Plan 2014-2017 provides extensive discussion of environmental issues in Africa, as reflected below.

About 70 per cent of Africa's land is in an arid or semi-arid environment, with severe degradation of natural resources undermining land productivity and exacerbating the vulnerabilities of ecosystems and livelihoods. Africa is also one of the most vulnerable regions to the impact of climate change and climate variability, but with little capacity to adapt. It is estimated that close to 200 million people in Africa experience water stress and drought is experienced by every generation in 13 per cent of the population. Some regions experiencing water stress, such as the Sahel and the Horn of Africa region, have been victims of recurrent and persistent drought and famine. In 2012 alone, up to 17 African countries suffered protracted food crises resulting from recurrent natural disasters and/or conflict, several years of food crises, the breakdown of livelihoods and low institutional capacity. Apart from water stress, climate change impacts in Africa are forecast to include widespread flooding and migrations.

Environmental risks contribute to about 28 per cent of Africa's disease burden. Some of these risks stem from Africa's poor waste disposal capacities and limited access to safe drinking water. For example, at present, only 60 per cent for the population of sub-Saharan Africa have access to safe drinking water. Steady deterioration in state of the environment poses significant threats to atmospheric and fresh water, land and coastal marine environments, forests, woodlands and biodiversity. About 330 million of people in Africa have no access to safe drinking water, almost a third of the total number worldwide. Furthermore, it is estimated that water scarcity will increase to 65 per cent by 2025, up by almost 20 per cent since the year 2000. Pollution levels have also grown significantly because

of the quest for industrialization to broaden Africa's manufacturing base (African Union Commission, 2013).

Persistent organic pollutants form part of growing chemical stockpiles, many of which consist of obsolete pesticides and therefore increase the risks of pesticide poisoning in Africa. Adding to this environmental burden is the burgeoning e-waste stream, caused mainly by the phenomenal growth of the information and communication technology sector, characterized in particular by the increased use of mobile telephones and computers. Dumping of chemical wastes has also generated acute environmental hazards. In West Africa, the dumping of highly toxic chemicals in 2006 led to 17 deaths and over 30,000 people rendered acutely ill.

Africa's vulnerability to climate change is aggravated by the dependence of the majority of its population on environmental and natural resources. When weather conditions change, the adverse impact on livelihoods is felt immediately and directly. Lack of economic diversification and absence of insurance systems makes it difficult for communities to cushion themselves against the effects of climate change. African populations also lack robust coping mechanisms and safety nets to deal with the impact of extreme weather events.

Marine pollution is also a challenge. Six island states and 33 countries of mainland Africa share coastlines. Marine pollution has been a serious hazard, of which 80 per cent stems from land-based activities involving flows of untreated sewage, agricultural run-off, and chemical wastes.

As regards land, Africa has experienced severe forms of land degradation in recent years. It is estimated that in Burkina Faso, Ethiopia, Lesotho and Mali, 60 per cent of the population live in degraded land. The consequences for agricultural production have been drastic. In fact, agricultural losses have ranged between 2-40 per cent, the worst globally (African Union Commission, May 2013)

Efforts to promote sustainable management practices have grown over the years, with the Great Green Wall for the Sahara and Sahel Initiative being a key example in this regard.

In 1990, Africa had 31.2 per cent forest cover, but by 2010, this had fallen to 28.1 per cent (African Union Commission, May 2013). The decline in forest cover threatens rural livelihoods and biodiversity, and is associated with overexploitation and conversion of forests to other uses driven by population growth, economic development and the drive to fulfil the basic needs of populations.

Africa's small island developing States (SIDS) are particularly vulnerable to climate change and face unique constraints in terms of environmental resource management for sustainable development. SIDS are vulnerable to sea level rise and natural and environmental disasters such as cyclone, volcanic eruptions and tsunamis, face challenges in the safe disposal of solid and liquid waste due to lack of space, shortages of fresh water and inadequate land resources, and are heavily dependent on energy imports, to mention a few. Thus, to ensure their survival, it is imperative that the tackling of environmental challenges through integration of environmental considerations into national decision-making processes becomes a priority for such States.

Urbanization and poor urban development: Urbanization is another source of vulnerability in Africa. Africa is the world's most rapidly urbanizing continent at 3.9 per cent per annum (Pelling and Wismer, 2009). UN-Habitat projects that Africa will have more

people living in urban than rural areas by 2025 (UN-Habitat, 2010). Although only a small proportion of the population live in ‘mega-cities’ such as Cairo and Lagos, the growing urban population in Africa has already begun to reshape the geography of disaster risk and the scope for reducing that risk. Most African cities are characterized by a high proportion of the population living in poor quality conditions, informal housing and settlements often on hazardous sites (for example, at risk from floods, landslides, earthquakes, fires, etc.) and a large number of people working in the informal economy. Risk levels in urban areas are much increased by the lack of infrastructure and services in many residential areas and the ineffectiveness of local governments in taking the measures that can reduce risks (Marrakesh, December 2009). In Africa, cities therefore both present opportunities for development and challenges for risk accumulation.

With increasing efforts to strengthen governance, decentralization and local governance are being introduced to bring governments closer to the people and promote citizens' participation and good local governance. Provincial, district and municipal governments are increasingly at the forefront of service delivery. However, the growth of Africa's population has outpaced local authority capacities to deliver those services. Many of these entities have low capacity and have not developed a strong culture of service delivery. If decentralization is to be effective, capacity needs to be built, fiscal decentralization pursued and strong management teams and partnerships for service delivery with private entities established (African Union Commission, 2013).

Lack of consideration of disaster risk reduction in infrastructure planning and development: Infrastructure in the region is prone to high disaster impacts because of inadequate or no attention to disaster risk reduction in the planning and development of infrastructure. Heavy investment in infrastructure such as roads, bridges and railways could mean heavy losses as well as reconstruction costs resulting from the effects of disasters such as floods and earthquakes. Without adequate consideration and investment in disaster risk reduction or risk proofing as part of the Africa's planned heavy investment in infrastructure through PIDA and relevant national programmes, the disaster risks will increase.

In summary, the African continent faces multiple sources of vulnerability. A fast growing economy with large investments planned in social and economic infrastructure provides opportunities to address the scourge of poverty as the main driver of vulnerability. However, the inclusion of rapid urbanization in this development could also increase the amount and accumulation of risk if disaster risk reduction is not integrated and prioritized as part of the development agenda.

2.3 Africa's disaster profile: magnitude and impact

2.3.1 Overview of the occurrence, magnitude and impact of disasters in the region

Africa is prone to a wide variety of natural and human-induced hazards and disasters. There has been a significant rising trend in the annual frequency of large-scale disaster events reported in Africa since 1985 (International Council for Science, 2007). Hazards such as floods, hurricanes, earthquakes, tsunamis, droughts, wildfires, pest plagues, and air and water pollution trigger destabilizing events and cause death and extensive losses to livelihoods and property.

A recent report by the World Meteorological Organization (WMO) summarizes disaster events, deaths due to disasters and economic losses in Africa for the period 1970-2012 (WMO, 2014). Figures 1-3 and Tables 3 and 4 of this report summarize the major disasters by type, year, country and the number of deaths and economic losses. The data indicates that drought was the cause of most deaths with Ethiopia, Mozambique and Sudan being the main victims. Drought also caused the most economic losses, with floods and storms also contributing significantly. Madagascar, Senegal and South Africa, together with the Portuguese island of Madeira, seem to have suffered the most losses.

According to the WMO report, disasters have been on the increase in the last four decades. In the 1970s, only 86 disasters were recorded, rising to 181 in the 1980s and 309 in the 1990s. In the 2000s alone 627 disaster events were recorded, representing more than twice the total number of disasters that occurred during previous three decades. Floods continue to top the list of disaster events, followed by drought and storms.

The pattern of disaster deaths in the last four decades indicates that deaths from disasters peaked in the 1980s, which recorded about 550,000 deaths compared to about 120,000 in the previous decade. The last two decades have witnessed drastic declines in fatalities to slightly over 10,000 in the last two decades (1990s and 2000s). Clearly, the disaster risk reduction message appears to have had its most impact in the reduction of disaster deaths, because of strengthened early warning systems and increased public awareness campaigns.

The WMO report further indicates that economic losses appear to have remained constant, ranging from \$5.7 billion in the 1970s, to \$6.2 billion, \$6.3 billion and \$6.1 billion in the 1980s, 1990s and 2000s, respectively. It is difficult to explain this pattern and it may not reflect the actual situation. Indeed the United Nations Global Assessment Report on Disaster Risk Reduction 2013 suggests that both direct and indirect economic losses are underestimated globally by 50 per cent, and this may be more so in Africa where data are more difficult to obtain. At the same time, the Global Assessment Report on Disaster Risk Reduction 2011 reports that economic losses from droughts and floods are on the increase. In Africa, most economic losses appeared to have resulted from a combination of drought and storm events, and this is likely to continue to be in the case in future with increasing effects of climate change. The WMO data may therefore be only part of the story.

Table 3

Disasters ranked according to reported (a) deaths and (b) economic losses (1970-2012).

(a)	Disaster Type	Year	Country	Number of Deaths
1	Drought	1983	Ethiopia	300000
2	Drought	1984	Sudan	150000
3	Drought	1975	Ethiopia	100000
4	Drought	1983	Mozambique	100000
5	Drought	1975	Somalia	19000
6	Flood	1997	Somalia	2311
7	Flood	2001	Algeria	921
8	Flood	2000	Mozambique	800
9	Flood	1995	Morocco	730
10	Flood	1994	Egypt	600

(b)	Disaster Type	Year	Country	Economic loss in USD Billions
1	Drought	1991	South Africa	1.69
2	Flood	1987	South Africa	1.55
3	Flood	2010	Madeira	1.42
4	Storm (<i>Emille</i>)	1977	Madagascar	1.33
5	Drought	2000	Morocco	1.20
6	Drought	1977	Senegal	1.14
7	Storm (<i>Gervaise</i>)	1975	Mauritius	0.85
8	Flood	2011	Algeria	0.79
9	Storm	1990	South Africa	0.69
10	Storm (<i>Benedicte</i>)	1981	Madagascar	0.63

Source: WMO (2014)

While Table 3 documents hydrometeorological disaster events, Table 4 gives overall picture of all disasters that occurred in Africa between 1980 and 2008.

Table 4

Impact of disasters by event 1980-2008

Event	Average Per year	No. of People Killed	No. Of People Affected	Economic Damages X1000
Drought	6.35	3,006.10	1,369,885	26,178
Earthquake	1.66	158.48	32,560	255,394
Epidemic	21.31	203.82	19,039	No data
Extreme temperatures	0.34	22.70	110,010	4,781
Floods	19.51	28.62	73,907	7,402
Insect Infestation	2.10	No data	No data	85
Mass Movement Dry	0.21	39.50	316	No data
Mass Movement Wet	0.62	18.28	1,249	No data
Volcano	0.41	165.75	35,446	750
Storm	5.28	22.41	69,495	18,542
Wildfire	0.72	10.95	785	476

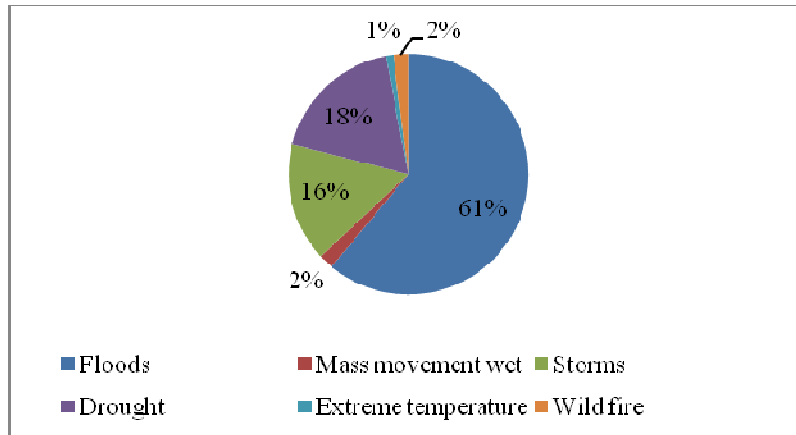
Source: Centre for Research on the Epidemiology of Disasters, 2014.

Drought and floods continue to lead the pack, together with epidemics. While less than two earthquakes occurred during the period, their economic damage exceeds the total for all the recorded disasters. This could be explained by the fact that physical damage caused by earthquakes to infrastructure, such as roads, schools, hospitals and other physical assets are visible; and the associated costs are direct and can be calculated. On the other hand, many of the economic costs of events such as drought and epidemics are often invisible and relatively difficult to calculate. These indirect costs include “downstream disruption to the flow of goods and services, lower input from damaged or destroyed assets and infrastructure as well as loss of incomes, disruption of basic services such as telecommunications, electricity, and water supplies.” Indirect costs also include the cost of both medical expenses and loss of productivity arising from increased incidence of disease, injury or death (UNDP, 2004).

Figures 1-3 indicate that between 1970 and 2012, a total of 1319 disasters occurred in Africa, killing a total of 698,380 people and causing economic loss totalling \$26.6 billion.

Figure 1

Percentage of disaster events, by disaster type (Total = 1319 disasters (1970-2012))



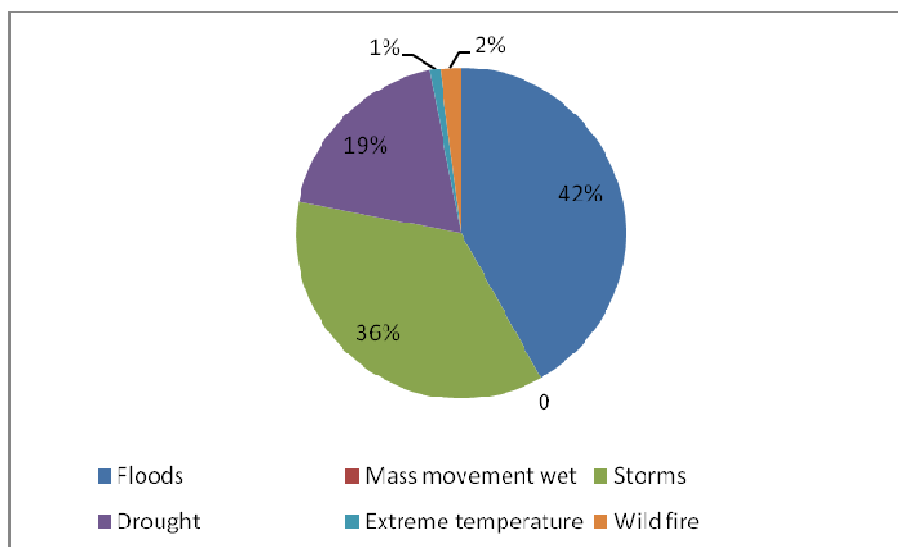
Source of data: WMO, 2014

Figure 2

Percentage of reported people killed, by disaster type (1970-2012)

Source of data: WMO, 2014

Figure 3
Estimated economic damages reported, by disaster type (1970-2012)



Source of data: WMO, 2014

The disaster profiles at subregional levels tend to mirror the overall continental picture in terms of occurrences, but with major variations in causes of fatalities. Table 5 provides a comparison between the continent as a whole and the ECOWAS subregion in terms of disaster events and their impact. While the number of events in West Africa constituted approximately 25 per cent of the continental total, damage only amounted to 4 per cent of continental total and the number of people affected is 16 per cent of the total affected across the whole continent.

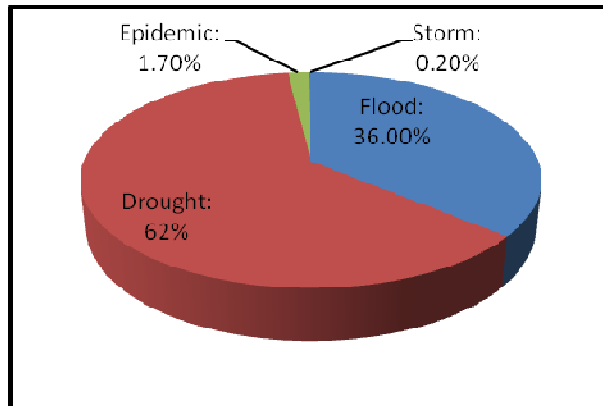
Table 5
Overview of disasters in West Africa subregion (1990-2012)

	ECOWAS	Africa
Number of events	469	1699
Number of people killed	58,192	708,702
Average killed per year	2530	24,438
Number of people affected	57,646,881	319,468,876
Average affected per year	2,506,386	11,016,065
Economic Damages (USD)	902,142,000	24,141,032x1000

Source: Adopted from draft ECOWAS subregional report (EM-DAT, 2013)

Figures 4 and 5 show that consistent with the continental experiences, drought and floods continued to be the predominant disaster events in ECOWAS. Figure 6 shows that drought affects more people, accounting for about 62 per cent, followed distantly by floods, which were found to account for about 36 per cent.

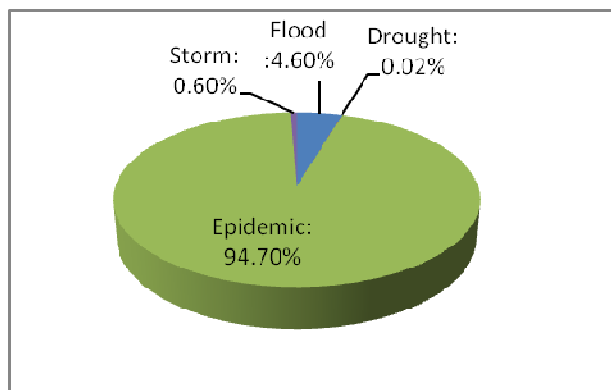
Figure 4
Percentage of disaster events by disaster type (1990-2012)



Source: EM-DAT, 2013(ECOWAS subregional report.)

Most fatalities in the subregion were the result of disease epidemics, which accounted for 94 percent of deaths compared to hydrometeorological disasters, which were responsible for the remainder, with 4.6 per cent of deaths caused by floods, 0.6 per cent by storms and 0.02 per cent by drought.

Figure 5
Percentage of deaths in ECOWAS by disaster Type (1990-2012)



Source: EM-DAT, 2013 (ECOWAS subregional report)

The disaster profiles for the SADC, IGAD and ECOWAS subregions are summarized in Boxes 1-3 below.

Box 1
Disaster Occurrences in SADC 1980-2013

Synopsis of hazard occurrences in SADC subregion between 1980 and 2013.
 The occurrence of hazards is increasing, with the hydrometeorological hazards being the most frequent. The increase in the frequency of hydrometeorological hazards may be associated with climate change. Technological hazards have also become a major concern. There has been a sharp increasing trend of technological hazards occurrence since the 1980s. This could be a result of technological advancement in SADC, which has also increased the risk of industrial and traffic accidents.

Similarly, the frequency of biological hazards has increased over the decades. Climate change and rapid urbanization in SADC could have increased the risk of biological hazards. Heavy rains, storms and cyclones tend to trigger flooding, which increase the risk of water-borne diseases such as malaria and gastro-intestinal infections. Equally, water scarcity resulting from drought tends to increase the risk of gastro-intestinal infections, including cholera, typhoid and dysentery. Although the occurrence of environmental hazards is generally low, these can increase the risk of flooding and drought hazards, particularly when vegetation is destroyed, for example, as a result of wildfires and veldt fires, which have become one of the major concerns in SADC. Geophysical hazards occur the least frequently. However, they have also generally increased. The increasing trends of hazard occurrence means SADC has to install a combination of structural and non-structural measures to prevent, prepare for, respond timely to, and recover from disasters triggered by these hazards.

Source: SADC subregional report.

Box 2

ECOWAS Disaster Profile

Disasters triggered by natural hazard events have increased in frequency and severity in the subregion, particularly the Sahelian zone, over the last three decades. Although only 15 per cent of the total disaster events in Africa between 1975 and 2002 took place in West Africa, the number of disasters in the subregion rose by 94 per cent from the 1970s to the 1990s. 154 disasters occurred between 2000 and 2005, compared to 136 during the previous two decades. Other significant hazards include diseases, with epidemics accounting for 40 per cent of disasters in the subregion from 1975 to 2003, compared to 20 per cent for flood and drought, which cause most human fatalities and debilitation. However, the most pervasive disasters in terms of the numbers of people affected and disruption to livelihood support systems are those caused by floods, drought, famine, pest infestations (particularly locust invasions), deforestation, forest degradation, sea erosion, sea level rise, coastal wetlands degradation, invasive alien species, and wildfires. Furthermore, drawing on more recent information, the frequency and severity of natural disasters in West Africa between 1990 and 2012 showed a significant upward trend (see figure 2.2.1); about 469 disaster events were recorded in the region within that period, with the most events occurring between 2001 and 2010.

Source: ECOWAS subregional report.

Box 3

Disaster Profile of IGAD subregion

IGAD member States are vulnerable to acute human suffering and loss of development assets brought about by disasters with both human and natural causes, and frequently by a combination of both. With nearly half of the subregion's population chronically food insecure, disasters threaten food security through disruption of normal cropping, pastoralist and marketing activities. In recent years, episodes of drought-induced food shortages and famine associated with conflict have resulted in millions of casualties, internally displaced persons and refugees, posing dilemmas for long-term solutions. Such conflict-related or 'complex' emergencies can create a need for massive and prolonged relief operations, and require the heavy use of social and economic assets in mitigation.

Aside from the foremost natural hazard of drought, other 'slow-onset' hazards include environmental degradation, the consequences of which can be equally disastrous to the food supply. Major 'sudden-onset' natural hazards such as floods, epidemics, pest infestations and livestock diseases, as well as earthquakes, severe storms and cyclones also threaten the subregion.

However, the subregion possesses many assets with which to fend off disaster effects, such as the resilience and capabilities of communities, local coping and recovery mechanisms, lessons learned and infrastructure from past disasters, and, in particular, opportunities for pre- and post-disaster planning and development.

Source: IGAD, 2013.

2.3.2 Climate-related disasters

Africa is predominantly affected by climate-related disasters. These are particularly related to meteorological and hydrological hazards and climate extremes that are increasing across the region. Hydrometeorological events cause the majority of loss of life and economic losses in sub-Saharan Africa. These include floods, droughts, tropical cyclones and strong winds, storm surges, extreme temperatures, forest fires, sand or dust storms, and landslides. The review of disasters in Africa below is largely drawn from the comprehensive analysis by the International Council for Science (ICSU) Regional Office for Africa Science Plan: Natural and Human-induced Hazards and Disasters in sub-Saharan Africa (ICSU, September 2007).

Drought has been a perennial feature in most parts of the region since the early 1980s. Sub-Saharan Africa was affected by serious drought episodes in 1965-66, 1972-74, 1981-84, 1986-78, 1991-92 and 1994-95. These disasters were exacerbated by unplanned and unregulated land use, weak environmental controls, poor enforcement of building standards, urbanization, and other development-related factors that increase the vulnerability of people, property, and infrastructure.

In the period 1975-2002, disasters of hydrometeorological origin constituted 59 per cent of the total number of natural disasters that occurred in sub-Saharan Africa (OFDA-CRED, 2002; UNISDR, 2004), with floods accounting for 27 per cent, droughts for 21 per cent, windstorms (particularly tropical cyclones) for 9 per cent, and wildfires for 1 per cent. An alarming trend is the increasing number of people that continue to be affected by natural hazards of hydrometeorological origin, with drought, flooding, and windstorms accounting for 90 per cent of the total number of people affected.

Floods: Floods and flash floods are among the most devastating natural hazards in Africa. They cause loss of life, damage to property, and promote the spread of diseases such as malaria, dengue fever and cholera. Between 1900 and 2006, floods in Africa killed nearly 20,000 people and affected nearly 40 million more, causing damage estimated at about \$4 billion.

The floods that occurred in Mozambique in February 2000 are an example of a flood disaster. Rainfall accompanying tropical cyclone Eline caused excessive flows in rivers, such as the Limpopo River, which has catchments in other countries. These floods affected a total of about 4.5 million people and caused 700 deaths; losses were estimated at \$500 million, and the GDP growth rate decreased from 10 per cent to 2 per cent.

Drought: A large part of sub-Saharan Africa is susceptible to drought, especially in the Sahel, which has annual rainfall of 150-600 mm, while much of southern Africa, including regions outside the Kalahari, experience frequent droughts. The 1970-1974 droughts in the Sahel subregion caused unprecedented losses in human life and livestock as well as environmental damage. The Horn of Africa has experienced persistent droughts. In 1984-1985, droughts affected 8 million people with estimates of 1million dead, and large numbers of livestock lost. In2000, nearly 100,000 people died from the effects of drought while the recent 2011-2012 droughts affected about 13 million people in the subregion.

Southern Africa has equally suffered the severe effects of drought, notably in 1982-1983 and 1997-1998, which have been linked to the El Niño Southern Oscillation phenomenon. Nearly all climate change projections signal greater chances of severe droughts over southern Africa, particularly in the central and western areas (Intergovernmental Panel on Climate Change (IPCC), 2001; Scholes & Biggs, 2004).

Wildfires: Much of sub-Saharan Africa is susceptible to wildfires related to climate and drought conditions. Fires are very common in the veldt in South Africa and in West Africa and the Sahel. Wildfires destroy pastures, crops, buildings, and infrastructure. It is estimated about 168 million hectares burn annually south of the equator, accounting for 37 per cent of the dry biomass burnt globally. Fires caused by human beings are becoming more frequent in Africa. Combined with intense drought, these fires destroy biodiversity and reduce the regeneration capacity of the vegetation.

Tropical cyclones and hurricanes: In sub-Saharan Africa, the areas most often affected by cyclones are the Indian Ocean islands and the coastal areas of eastern and southern Africa. Tropical cyclones can cause huge economic losses by damaging dwellings, infrastructure (power, telecommunications, roads), and fisheries. Heavy rainfall can cause floods that damage infrastructure and crops, trigger landslides, and spread disease. The impact of these storms on coastal communities is exacerbated by the destruction of natural barriers such as mangrove swamps.

WMO and Regional Specialized Meteorological Centres provide the region with information concerning cyclone disasters, especially the members of the Tropical Cyclone Committee for the South-West Indian Ocean. Cyclone warnings are broadcast on radio and television and published in the press. Warnings are also disseminated locally through, for example, schools, religious networks, governments and traditional establishments. In this way it has been possible for countries such as Mauritius to reduce the number of people killed by cyclones (ICSU, 2007).

Storms and dust storms: Tornadoes associated with violent thunderstorms occur regularly in the Highveld of South Africa, while the Sahel region is one of the largest sources of dust storms in the world. The dust alters the air quality, affecting animals, plants, and the weather. Scientists in the Niger-based Centre de Recherche Médicale et Sanitaire have found that dust storms blowing across the Sahel might be linked to lethal meningitis outbreaks that often hit this region and its 300 million inhabitants.

2.3.3 Geological hazards

Currently, disasters due to geological hazards have a far smaller impact on sub-Saharan Africa than those due to hydrometeorological hazards. Earthquakes account for 2 per cent, and landslides and volcanic hazards just 1 per cent of the total number of hazards occurring on the continent (OFDA-CRED, 2002). However, the impact of these hazards may change in future.

Earthquakes: Devastating earthquakes with magnitudes greater than 6 occur almost annually in the East African Rift. Recent events include the magnitude 7.5 earthquake in Mozambique in February 2006, which was one of the largest ever recorded in southern Africa. Four people were killed, 27 injured, and at least 160 buildings damaged. In December 2005, a magnitude 6.8 event in the Democratic Republic of Congo caused several deaths and damaged school buildings. The event also killed people in the Lake Tanganyika region in the west of the United Republic of Tanzania, and left more than 400 families homeless. The Cameroon Volcanic Line experiences earthquakes associated with volcanoes and fault movements. Earthquakes also occur occasionally in the Cape Fold Belt in South Africa. Mining-related earthquakes pose a significant hazard to mineworkers in the gold and platinum mining districts of South Africa.

Currently, no earthquake warning system in the region comes close to the required level of reliability. A sustainable earthquake disaster mitigation strategy requires the compilation of base maps of known faults, as well as efforts to detect possible unknown faults. It is also necessary to build interactive databases on high-risk areas and integrate them with databases on population distribution, seismic history, and vulnerability to hazards and disasters (ICSU, 2007).

Tsunamis: The 2004 Indian Ocean earthquake, known as the Sumatra-Andaman earthquake, was an undersea earthquake that occurred at 00:58:53 Coordinated Universal Time (UTC) (07:58:53 local time) on 26 December 2004. Although not as severely affected as Asia, African countries also suffered losses (UNESCO Intergovernmental Oceanographic Commission *et al.*, 2005). In Somalia, 176 people were killed, 136 went missing, and 50,000 were displaced.

The tsunami disaster created an awareness of the need for a tsunami warning system for the Indian Ocean. A survey conducted by the UNESCO Intergovernmental Oceanographic Commission, WMO, and the International Strategy for Disaster Reduction showed that African countries have limited capacity to implement mitigation measures for tsunamis effectively. The United Nations started working on an Indian Ocean tsunami warning system, and by 2005 had the first monitoring facility in place.

Volcanoes and explosive craters: Active volcanoes pose a serious threat to life and property in parts of Africa. The continent has about 140 volcanoes that have erupted during the last 10,000 years, of which 25 are considered active, having erupted within the last 500 years. The most disastrous volcanic eruption on record in Africa occurred at Mount Nyiragongo in the Democratic Republic of the Congo in January 2002. It killed 147 people and destroyed Goma, a town with over half a million inhabitants. The eruption of Mount Karthala (Comoros, April 2006) caused more than 10,000 villagers to flee their homes.

An ongoing project at the Royal Museum for Central Africa in Tervuren, Belgium, is studying and monitoring African active volcanoes, using radar inter-ferometry to examine the recent evolution and assess the risks associated with four active volcanoes (Mount Nyiragongo, Mount Cameroon, Mount Fogo, and Mount Ol Doinyo Lengai). This work is being done in collaboration with African volcanologists, including those in Cameroon, the Democratic Republic of the Congo, and the United Republic of Tanzania (ICSU, 2007).

Landslides, mudflows, erosion, and siltation: Mass movements, which include a range of natural phenomena such as landslides, mudflows, erosion, and siltation, are affected by rock and soil types, rainfall patterns, topography, and vegetation. Human factors that contribute to mass movements include overpopulation, deforestation, and poor land management practices. An inventory of mass movements would be a valuable tool to advance research. Stabilizing slopes and enforcing land use planning in vulnerable areas can mitigate these phenomena.

2.3.4 Biological hazards

Epidemics and insect infestations account for 36 per cent of all disasters in Africa (UNISDR, 2004). In recent decades the damaging effects of such plagues have become increasingly severe, due to the steady and continuous increase in population. The current Ebola virus disease epidemic in West Africa must be added to the list of epidemics to which Africa is vulnerable.

Epidemics: According to World Bank reports, mosquito-borne diseases are the leading killer of African children. Epidemic malaria in the highlands of eastern Africa is closely associated with climatic hazards such as the El Niño phenomenon. According to the United Nations Office for the Coordination of Humanitarian Affairs (OCHA), there were over 24,000 cases of cholera in West Africa in 2005 (as reported by Derek Quinn, Radio Canada International, 29 August 2005). Chikungunya and dengue fever are associated with environmental phenomena such as flooding and drought. In the East African Rift, landslides can cause outbreaks of Rift Valley fever by releasing a soil fungus into the air where it may be inhaled.

Ebola virus disease (also known as Ebola haemorrhagic fever or Ebola): This is a disease of humans and other primates caused by Ebola viruses. Ebola virus disease is considered to be one of the world's most deadly diseases. It is a highly infectious virus that can kill up to 90 percent of the people who catch it and is so infectious that patients need to be treated in isolation by staff wearing protective clothing (Médecins Sans Frontières, 2014).

The spread of Ebola virus disease involves direct contact with an infected wild animal, such as fruit bats. Besides bats, other wild animals sometimes infected with Ebola virus disease include several monkey species, chimpanzees, gorillas, baboons and duikers (Médecins Sans Frontières, 2014). The virus spreads by direct contact with blood or other body fluids of an infected human or other animal.

Table 6 presents a chronology of Ebola virus disease outbreaks. Ebola virus disease was first identified in 1976 in an area of Sudan (now part of South Sudan), and in Zaire (now the Democratic Republic of the Congo). The disease typically occurs in outbreaks in tropical regions of sub-Saharan Africa. Throughout 2013, WHO reported a total of 1,716 cases in 24 outbreaks.

The current outbreak, the largest outbreak to date and one that is ongoing, appeared in March 2014 in Guinea and spread to Sierra Leone and Liberia where, according to WHO, as of December 3 2014, there have been 6,070 deaths, out of 17,145 cases reported up to 30 November 2014 (Reuters). Guinea, Liberia and Sierra Leone account for all but 15 of the deaths in the world's worst Ebola virus disease outbreak. Several cases were reported in Nigeria and Senegal, while cases were also reported in the Democratic Republic of the Congo, independent of the West African epidemic. However, by end of the October these countries were declared Ebola-free (Médecins Sans Frontières, 2014). Mali confirmed its first case on 23 October 2014, and the international community is monitoring the situation in the country closely.

Table 6
Timeline of previous Ebola virus disease outbreaks

Year	Country	Ebola virus species	Cases	Deaths	Case fatality
2012	Democratic Republic of the Congo	Bundibugyo	57	29	51%
2012	Uganda	Sudan	7	4	57%
2012	Uganda	Sudan	24	17	71%
2011	Uganda	Sudan	1	1	100%
2008	Democratic Republic of the Congo	Zaire	32	14	44%
2007	Uganda	Bundibugyo	149	37	25%
2007	Democratic Republic of the Congo	Zaire	264	187	71%
2005	Congo	Zaire	12	10	83%
2004	Sudan	Sudan	17	7	41%
2003 (Nov-Dec)	Congo	Zaire	35	29	83%
2003 (Jan-Apr)	Congo	Zaire	143	128	90%
2001-2002	Congo	Zaire	59	44	75%
2001-2002	Gabon	Zaire	65	53	82%
2000	Uganda	Sudan	425	224	53%
1996	South Africa (ex-Gabon)	Zaire	1	1	100%
1996 (Jul-Dec)	Gabon	Zaire	60	45	75%
1996 (Jan-Apr)	Gabon	Zaire	31	21	68%
1995	Democratic Republic of the Congo	Zaire	315	254	81%
1994	Côte d'Ivoire	Tai Forest	1	0	0%
1994	Gabon	Zaire	52	31	60%
1979	Sudan	Sudan	34	22	65%
1977	Democratic Republic of the Congo	Zaire	1	1	100%
1976	Sudan	Sudan	284	151	53%
1976	Democratic Republic of the Congo	Zaire	318	280	88%

Source: WHO, 2014.

On 29 September 2014, a case of Marburg fever, considered a cousin virus of Ebola virus disease was declared in Uganda, with one death reported, but seems to have been managed quickly.

The spread of the Ebola virus disease epidemic has been attributed to the high vulnerability of the populations due to poverty and the weak state of the health systems in these countries. The epidemic affected the countries at many levels, with impacts on governance, health systems, education, agriculture, food security and the economy. It is expected to have a significant impact on the economy.

Box 4

Projected impact of Ebola virus disease on development

In October 2014, the World Bank reported that the two-year regional financial impact could range from a “low Ebola” estimate of \$3.8 billion to a “high Ebola” estimate of \$32.6 billion by the end of 2015. “These estimates of the scale of impact remain valid, given that the epidemic is not yet under control,” the World Bank press release said.

Meanwhile, according to the Update on the Economic Impact of the 2014 Ebola Epidemic on Liberia, Sierra Leone, and Guinea released by the World Bank Group, the epidemic continues to cripple the economies of Guinea, Liberia, and Sierra Leone, and is projected to result in negative or contracting growth in these countries next year.

According to the report, growth estimates for 2014 in the three affected countries have been revised sharply downward. With second-round effects and investor aversion, the economies of Sierra Leone and Guinea are expected to shrink in 2015, and Liberia is expected to grow at less than half the pace anticipated before the crisis.

The report also stated that: “The total fiscal impact of the crisis is well over half a billion dollars in 2014 alone,” and that “All three countries had been growing rapidly in recent years, and into the first half of 2014. But (World Bank, 2014) projected 2014 growth in Liberia is now 2.2 per cent (versus 5.9 per cent before the crisis and 2.5 per cent in October). Projected 2014 growth in Sierra Leone is now 4.0 per cent (versus 11.3 per cent before the crisis and 8.0 per cent in October). Projected 2014 growth in Guinea is now 0.5 percent (versus 4.5 per cent before the crisis and 2.4 per cent in October).”

This report, which updates the World Bank Group’s analysis dated 8 October 2014 of the economic effects of the crisis on the three hardest-hit countries, was issued as World Bank Group President Jim Yong Kim began a visit to West Africa to assess the epidemic’s impact and discuss what steps needed to be taken to reach the goal of zero cases as soon as possible.

According to WHO, “If this Ebola outbreak does not trigger substantial investments in health systems and adequate reforms in the worst-affected countries, pre-existing deficiencies in health systems will be exacerbated (WHO, 2014) “For the foreseeable future, however, the negative economic impact on the affected countries means that substantial external financing will be needed to build stronger national and subnational health systems.”

Pest infestations: Pests such as locusts, grain-eating birds and African armyworm cause great agricultural losses, contributing to poverty and famine. The large grain borer, *Prostephanus truncatus*, has spread through sub-Saharan Africa and is causing value and weight losses in stored maize approaching 60 per cent. About 10 million km of Africa is affected by animal trypanosomiasis (nagana), spread by tsetse flies (*Glossina* spp.), which seriously limits farming activities.

2.3.5 Astrophysical hazards

Space weather: Adverse space weather associated with coronal mass ejections and solar flares is a natural hazard that can affect technological systems such as satellite systems, radio communication, and electrical power distribution systems in Africa. Many other technologies associated with infrastructure are vulnerable, including radio communications, satellite communications, satellite systems, global positioning systems, and pipelines.

Africa is one of only two continents that do not yet have regional warning centres for space weather. The Southern African Space Weather and Ionospheric Information Service (SASW) at the Institute of Maritime Technology in Cape Town provides the only known warning service in Africa. Because of the limited impact of space weather, compared to other natural hazards, little research in this area has been conducted in Africa.

Meteorite impacts: The African continent bears the scars of 17 confirmed meteorite impacts, ranging in age from the Vredefort structure in South Africa, which is 2023millionyears old, to the Aorounga structure in Chad, which is 10,000 years old. While there is no instance of a meteorite impact disaster during recorded human history, the phenomenon deserves mention in this inventory, as truly catastrophic losses could result should an impact occur in a densely populated region. For example, a meteorite that is 50 m in diameter – similar to the one that, 220,000 years ago, created the relatively modest Tswaing crater (diameter of 1.13 km) north of Pretoria would have an explosive force equivalent to 20 to 40 million tons of TNT. Anything in the immediate target area would be instantly vaporized, and violent wind and ejecta would cause devastation over an area of 1000 km² or more.

2.3.6 Human-induced disasters

Among the human-induced disasters in Africa are air and water pollution, gas flaring, waste disposal and land degradation.

Air and water pollution: Air pollution is becoming a serious environmental problem in Africa, which, in the past 25 years, has been experiencing the world's most rapid rate of urbanization at nearly 5 per cent per annum. The high rate of urbanization (4-8 per cent per annum in some cities), which is expected to continue for the next decade, combined with low-income solutions to daily commuting, has resulted in a rapid increase in pollutants emitted by motorized vehicles.

According to the Africa Environment Outlook report (UNEP, 2002), in addition to degrading the environment, the use of biomass fuel, also increases health risks for women and children, who mostly do the cooking in African families. In the United Republic of Tanzania, for example, children under five years of age who die from acute respiratory infections are three times more likely to have been exposed to the burning of such fuels.

To address the issues related to air pollution, the Air Pollution Information Network for Africa (APINA), a regional network of scientists, policymakers, and NGOs, has been established and currently covers Southern Africa. Their activities form part of the Atmospheric Environment Issues in Developing Countries Programme, coordinated by the Stockholm Environment Institute and funded by the Swedish International Development and Cooperation Agency under the Regional Air Pollution in Developing Countries programme (ISCU, 2007).

Water pollution, for example, contamination in rivers and lakes, is also a serious hazard in sub-Saharan Africa. In 2000, over 300 million people did not have access to clean and safe water, and over 500 million went without adequate sanitation.

Gas flaring: Gas flaring is a serious hazard in southern Nigeria. Every day, almost two million cubic feet of natural gas is burnt during crude oil production, more than any gas flare reported elsewhere in the world.

Toxic waste disposal: For the past three decades, poor African nations have been used as dumping sites for hazardous toxic waste materials from developed countries. Such waste includes raw sewage, sludge, incinerated ashes, contaminated soils, nuclear materials, acids, and poisonous solvents ejected by chemical, pharmaceutical, and fertilizer-producing plants in the industrialized world (www.american.edu/TED/oauwaste.htm). The dumping of toxic waste materials poses a grave environmental threat to African people, many of whom are not aware of the dangers and are not equipped to handle the ensuing consequences.

Land degradation: Land degradation caused by erosion, desertification, deforestation and poor agricultural practices is destroying the resources on which African farmers and their families depend. It has been estimated by UNEP that more than a quarter of the African continent is in the process of becoming useless for cultivation because of land degradation. One of the causes of degradation is population pressure, which forces farmers to cultivate marginal land.

Africa's forests and woodlands are also being depleted at an alarming rate, threatening one of the continent's most important resources. Nearly four million hectares are now being deforested or degraded annually, largely in humid and sub-humid West Africa. The cause of deforestation is mainly land clearing for agriculture, but uncontrolled logging, collection of fuel wood, fire, and overgrazing are also taking their toll.

Poverty, coupled with increasing population pressure, is the biggest single cause of this degradation. The rural poor, the overwhelming majority of Africa's population, destroy their own environment, not out of ignorance but simply for survival.

Conflict-related hazards: Ongoing conflicts in Africa exacerbate other hazards. Fragile and degraded environments can fuel conflict and war, and vice versa. Conflicts aggravate the effects of natural hazards, such as famine and epidemics, by increasing the vulnerability of societies and ecosystems already under stress. In turn, the type, onset, and intensity of conflicts are also influenced by natural environmental hazards. Both are linked, but the relationship is complex. These issues, therefore, need to be integrated in disaster risk reduction interventions. Conflict and land degradation can cause large numbers of people to move within the borders of a country or across international borders

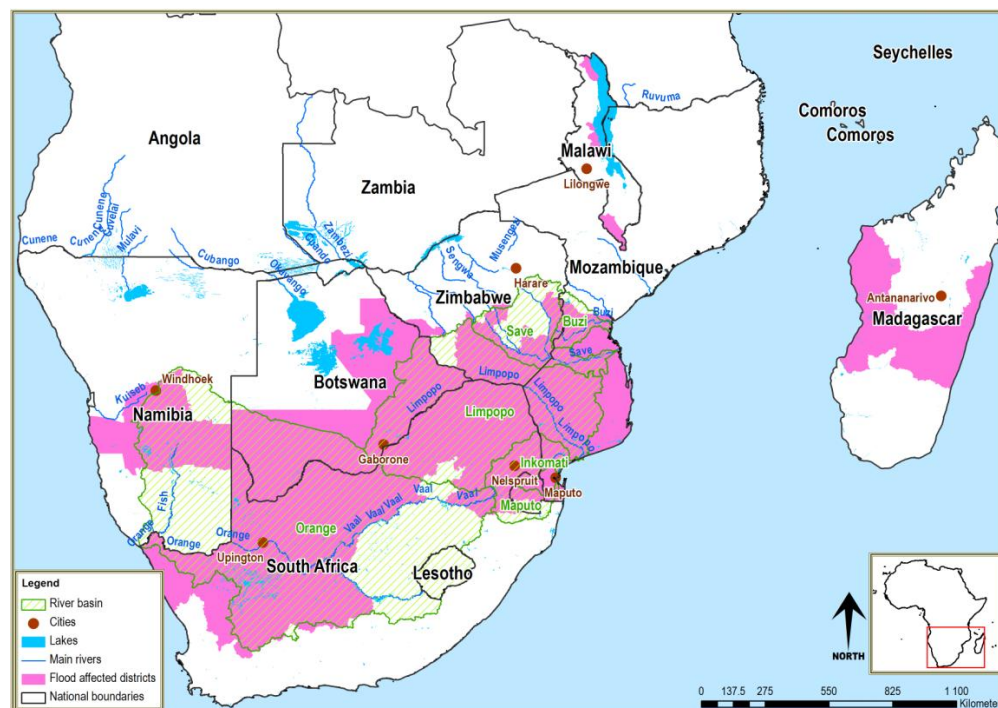
2.3.7 Transboundary disasters

Many of the Africa's disasters including floods, drought and epidemics are transnational and affect more than one country at a time. Floods, droughts and epidemics in particular do not recognize any national boundaries.

Floods: The 2000 floods in Mozambique were the result of flooding of several rivers with sources inland in Southern African countries. Figure 6 shows the areas affected by floods caused by Cyclone Eline. While Mozambique bore the brunt of the resulting floods, which

included more than 700 deaths and the internal displacement of approximately 250,000 Mozambicans, a further 290,000 people were displaced in Botswana, Madagascar, South Africa, Zambia and Zimbabwe (RIASCO, May 2013).

Figure 6
Areas reporting flood effects associated with Cyclone Eline, January 2000



Source: RIASCO, 2013

Epidemics: Figure 7 and the associated table, which depicts the impact of the epidemic in individual countries, illustrate the transboundary nature of epidemics. It has been reported that while cholera has been endemic in Malawi, Mozambique, Zambia and Zimbabwe since 1998, the possibility of regional outbreaks has increased, exacerbated by intraregional migration. For example, the 2001-2002 cholera outbreak in South Africa was induced by imported cases, while the 2008-2009 regional epidemic was linked to the Zimbabwean outbreak, first reported in Harare. (RIASCO, 2013)

Cross-border population flows are increasingly contributing to vulnerability in Southern Africa (SADC subregional report). As already noted, the cholera epidemics in 2001-2 and 2008-9 were mainly attributed to cross-border population movements.

Drought: The 2011-2012 drought in the Horn of Africa, described as the most unprecedented drought since the 1950s, affected 12.5 million people, in Djibouti, Ethiopia, Kenya and Somalia, with its greatest impact in Somalia.

Animal diseases and plant pests: In ECOWAS countries, transboundary disasters such as animal diseases, and plant pests and diseases constitute a serious risk for the agriculture and livestock sector in the subregion (ECOWAS subregional report).

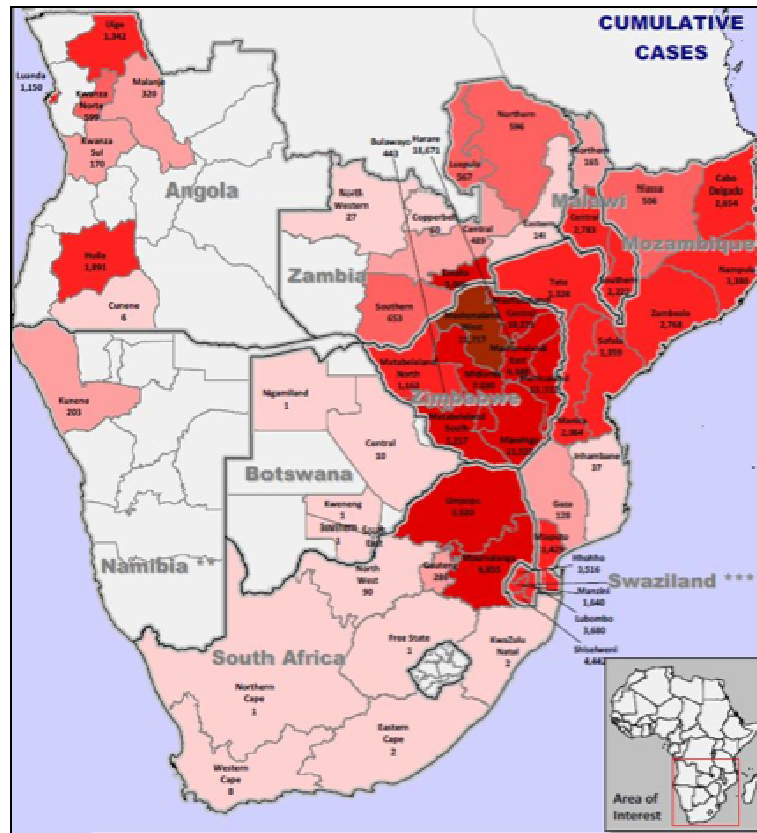
In summary, Africa's disaster profile is dominated by hydrometeorological disasters and climate-associated disasters, such as epidemics. These demonstrate a clear and compelling need to mainstream disaster risk reduction and address the challenges of climate change. The region also needs to develop mechanisms to tackle transboundary disasters. Africa's agenda for regional integration and the subregional vision of integration will aid these processes.

Overall, Africa exhibits a number of paradoxes in terms of its disaster- and development-related challenges. On the one hand, disasters have significant impacts on already stressed sectors, resulting in serious social and economic setbacks to development and poverty reduction. On the other, the very measures and development choices intended to address the conditions of underdevelopment may increase disaster risk. Development activity and disaster risk reduction are thus two sides of the same coin. If disaster risk reduction is not featured in the design of development plans and programmes, disaster risks will increase. Therefore, Africa needs to address its development priorities, which are intended to alleviate the conditions of underdevelopment and reduce disasters, through mainstreaming disaster risk reduction into the planning and implementation of development policies.

The challenge is expressed more succinctly in the following statement:

Mitigation measures are a relatively low priority for African decision makers and policymakers, however, as hazards and disasters often pale into insignificance when compared to other pressing issues such as poverty and HIV/AIDS. The fact that most African countries are poor makes this continent the one that is least equipped and least prepared to cope with the impacts of hazards and disasters. Reducing disaster risk through preventive measures is a central concern for Africa's sustainable development. It is vitally important that its countries adopt cost-effective policies to lower risk and allocate appropriate resources to hazard and disaster mitigation (ICSU, 2007).

Figure 7
Cholera/acute watery diarrhoea outbreaks in Southern Africa (2008-2009)



Source: RIASCO, 2013

2.3.8 National and subregional illustrations of socioeconomic and environmental impacts of disasters

As already noted, between 1900 and 2006, floods in Africa killed nearly 20,000 people and affected nearly 40 million more, and caused damage estimated at about \$4 billion.

Mozambique and SADC: Box 5 describes the devastating effects of the 2000 floods in Mozambique, while Table 7 shows the impact of floods on countries in the SADC subregion.

Box 5

Mozambique Floods, 2000

Floods swept through much of the south and central parts of Mozambique in February 2000. When cyclone Eline then hit central Mozambique at the end of the month, it worsened an already massive natural disaster.

At the traditional May Day parade in Maputo, Prime Minister Mocumbi gave preliminary estimates that about 700 people had died and another 100 were missing. Almost 2 million people (some 12 per cent of the total population) were seriously affected, with half needing food aid. Almost 250,000 people lost their homes. Moreover, with 140,000 hectares of cultivated and grazing land lost to the floods – about 11 per cent of the total cultivated area in the five provinces affected – over 113,000 small farm households had lost their

livelihoods. Furthermore, some 20,000 head of cattle were missing and feared drowned, and many more could die of disease.

The worst agricultural losses were in irrigation, with the Government estimating that some 90 per cent of the country's functioning irrigation infrastructure had been damaged. Industry too suffered as torrential rains caused severe damage in Matola, the industrial city on the outskirts of Maputo, leading to shutdowns or sharply reduced production in some of Mozambique's most successful factories. Virtually all production in the flooded cities of Xai-Xai and Chokwe in the Limpopo Valley came to a halt, largely because the electricity installations in these towns were under water. Over a thousand shops and wholesalers in the river basins, and even in low-lying areas of Maputo itself, were damaged.

Many secondary and tertiary roads were washed away, as were many bridges. All the railways in southern Mozambique were badly affected, particularly the Limpopo line from Maputo to Zimbabwe. The floods also closed 630 schools, attended by 214,000 pupils, and 42 health units were destroyed or damaged, including Beira Central Hospital, the second largest in the country.

At a donor conference held in Rome in early May to fund post-flood reconstruction, donors committed \$450 million, which was fully met, but the slow process of disbursement brought about delays in the actual delivery of relief aid, with only about \$250 million actually confirmed.

The floods affected a total of about 4.5 million people and caused 700 deaths; losses were estimated at \$500 million. Faced with the devastation, the Government cut back its target for economic growth in 2000 from 10 per cent to below 4 per cent.

Source: Africa Recovery, Vol.14 #3 October 2000

Table 7
Flood hazards in Southern Africa 1980-2013

Country	Frequency	Killed	Injured	Total Affected	Damage \$
United Republic of Tanzania	35	705	290	1002455	7790
Malawi	33	589	1	2149847	32489
South Africa	32	1227	49	565150	1621029
Mozambique	30	2054	15	9281899	967600
Angola	29	492	47	1197624	10000
Congo	20	204	668	261210	0
Zambia	16	71	913	5158108	20900
Namibia	13	264	0	1099450	20490
Zimbabwe	9	273	0	341520	276500
Botswana	9	31	7	171109	5050
Madagascar	6	52	17	164210	150000
Lesotho	5	66	0	185000	0
Swaziland	2	0	0	274500	50
Seychelles	1	5	2	1237	1700
Mauritius	1	11	82	82	0

Source: SADC subregional report

Kenya: The El Niño weather phenomenon in 1997-1998 caused widespread landslides and floods in parts of Kenya (Ngecu & Mathu, 1999). The national economic loss due to landslides was estimated at \$1 billion.

Réunion: a landslide triggered by heavy rainfall and unstable ground overran a busy coastal road in March 2006. A key transport route was destroyed, which disrupted economic activity. Vehicles were buried, causing several deaths.

Cameroon: Landslides are also common along the Cameroon Volcanic Line, mostly due to heavy rainfall, although some are triggered by earthquakes. Recent events in Cameroon include the Limbe landslides in 2001 and the Wabane landslides in 2003, where 21 and 23 people were killed, respectively. Heavy economic and infrastructural damage was also caused (ISCU, 2007).

Sahel subregion: The 1970-1974 droughts in the Sahel subregion caused unprecedented losses of human life and livestock, as well as environmental damage. The drought was equally devastating in the Horn of Africa, and Ethiopia suffered heavily – an estimated 250,000 human lives were lost and 50 per cent of livestock perished in the Tigray and Welo regions. The widespread droughts of 1984-1985 were the most catastrophic: about 8 million people were affected, 1 million died, and large numbers of livestock were lost in the Horn of Africa (ICSU, 2007).

ECOWAS subregion: Figure 5 shows that between 1990 and 2012, the frequency and severity of disasters showed an upward trend in West Africa, as about 469 disaster events were recorded in the subregion during this period. The greatest occurrence of disasters was between 2001 and 2010. About 57,646,881 people were affected, peaking in 2011 with more than 58,192 fatalities, and over \$902 million in reported economic damage. Economic impacts were particularly significant in 2012.

This brief subregional overview demonstrates the devastating human, social and economic costs and environmental impact of disasters. Across the continent, floods and landslides have ravaged countries, causing loss of human lives and economic losses in sectors such as agriculture, education, health, infrastructure and of course the environment. Droughts have also caused heavy losses in human life and livestock, particularly in the Sahel region and the Horn of Africa. These disasters, such as the Mozambique floods in 2000, have had significant impacts on GDP and economic growth. While most hazards, such drought and floods are natural phenomena, disasters are the result of a combination of exposure to these hazards and vulnerability. Reducing disasters therefore involves reducing exposure and addressing conditions that cause vulnerability. In Africa, since poverty is the main driver of exposure and vulnerability, disaster risk reduction is a development challenge.

Chapter 3: Resilience measures: policies, strategies and institutional frameworks

The African Union Commission and regional economic communities have made substantial progress in advancing the cause of disaster risk reduction and disaster risk management, in terms of policies or strategies and institutional mechanisms. These developments emanate from the mandates provided by the constitutive or normative instruments of the African Union and the respective regional economic communities. This section discusses the status of disaster risk management policies, strategies and institutions at regional and subregional levels.

3.1 Regional level

(a) *Constitutive Act of the African Union*

The Constitutive Act of the African Union provides the constitutional basis for all policies, strategies and programmes and actions of the African Union. Article 13 (1) (e) is commonly quoted as the enabling instrument that provides for all action related to disaster risk management. The Constitutive Act mandates the Executive Council to coordinate and take decisions on policies in areas of common interest to member States, including, among others, food, agricultural and animal resources, livestock production and forestry, environmental protection, humanitarian action and disaster response and relief to the disabled and the handicapped (African Union, 2000). The Constitutive Act has provided the a broad mandate for the African Union Commission and facilitated the development of treaties, policies, strategies, protocols and various instruments on issues pertaining to the region. It has been observed that Africa's framework of continental and regional policies is fundamentally sound, however those policies and instruments have not been thoroughly and consistently written into national legislation, even after treaties are signed and ratified (NPCA, 2013). Although this observation refers to infrastructure frameworks, the statement resonates for all other regional frameworks. The absence of a provision making these instruments binding for member States and various African institutions could be regarded as the major weakness of the Constitutive Act. Without such a requirement it makes it difficult to monitor implementation of regional frameworks.

In the area of disaster management and disaster risk management, a number of regional frameworks have been developed by the African Union Commission. These include the Africa Regional Strategy for Disaster Risk Reduction and the Extended Programme of Action for the Implementation of the Africa Regional Strategy for Disaster Risk Reduction, the African Union Humanitarian Policy and Policy on Disaster Management, the African Union Policy on Post-Conflict Reconstruction and Development, as well as related mechanisms and structures.

(b) *The Africa Regional Strategy on Disaster Risk Reduction and the Extended Programme of Action for the Implementation of the Strategy*

The Africa Regional Strategy for Disaster Risk Reduction and its Programme of Action are the main guiding instruments for the mainstreaming and implementation of disaster risk reduction in Africa.

The development of the Strategy emerged out of the recognition that disaster impacts were an impediment to sustainable development in Africa. A baseline study carried out to establish the status of disaster risk reduction in Africa identified gaps in institutional frameworks, risk identification, knowledge management, governance, and emergency response (African Union Commission and NEPAD, 2004). Based on these findings, the African Union Commission, together with NEPAD, development partners and other stakeholders developed and adopted the Africa Regional Strategy for Disaster Risk Reduction in 2004.

The aim of the Strategy is to contribute to the attainment of sustainable development and poverty eradication by facilitating the integration of disaster risk reduction into development efforts. The specific objectives of the Strategy are to:

- (i) Increase political commitment to disaster risk reduction;
- (ii) Improve identification and assessment of disaster risks;
- (iii) Enhance knowledge management for disaster risk reduction;
- (iv) Increase public awareness of disaster risk reduction;
- (v) Improve governance of disaster risk reduction institutions; and
- (vi) Integrate disaster risk reduction in emergency response management.

The Strategy describes the detailed strategic actions required to achieve each of the objectives and also defines the roles and responsibilities of the various actors and stakeholders.

Responsibility for coordination, strategic guidance, advocacy and promoting the implementation of the Strategy across the region clearly lies with the African Union Commission. The main mechanism through which the African Union carries out this mandate is the Africa Working Group on Disaster Risk Reduction. Chaired by the African Union, its membership comprises the African Union Commission, the NEPAD Secretariat and all regional economic communities and key partners such as UNDP, the World Bank Global Facility for Disaster Reduction and Recovery, the African Development Bank, UNISDR, the International Federation of Red Cross and Red Crescent Societies and representatives of higher education institutions and civil society. The Africa Working Group on Disaster Risk Reduction provides coordination and technical support to regional economic communities, member States and all stakeholders on the mainstreaming and integration of disaster risk reduction into all phases of development and implementation of the Strategy.

The main challenge in providing guidance and coordination at the regional level is the institutional capacity of the African Union and resources. The Department of Rural Economy and Agriculture of the African Union Commission, which is responsible for coordinating the implementation of the Strategy and Programme of Action, has no designated unit for disaster risk reduction. The Department has so far relied on technical assistance from the UNISDR in form of a disaster risk reduction advisor to support coordination and implementation at the regional level. However, it is expected that the envisaged European Union Support for the Implementation of the Programme of Action of the Africa Regional Strategy for Disaster Risk Reduction under the African, Caribbean and Pacific Country Cooperation programme will contribute significantly towards building capacity for coordination of the disaster risk reduction programme within the African Union Commission.

The regional economic communities provide strategic guidance and coordinate the implementation of the strategy in their member States, through the establishment of subregional disaster risk reduction platforms and focal points, and the preparation of programmes for resource mobilization to support national and subregional efforts.

The ultimate responsibility for implementation of the strategy lies with national governments, which must lead the process of developing disaster risk reduction capacities and the integration of disaster risk reduction into sustainable development frameworks. They must create the enabling environment, through the development of policies and legislation, establishment of national structures for management and coordination of disaster risk reduction activities, and the financing of disaster risk reduction programmes through national budgets.

Monitoring of progress of implementation is to be undertaken by the African Union/NEPAD, the regional economic communities and national governments. Disaster risk reduction is everyone's business and thus the strategy recognizes the important roles that can be played by the private sector, civil society organizations, Africa's development partners, United Nations agencies, women and gender groups.

(c) The Extended Programme of Action for Implementation of the Africa Regional Strategy for Disaster Risk Reduction

The Programme of Action for the Implementation for the Africa Regional Strategy for Disaster Risk Reduction was developed in 2005. This programme was revised in 2010 into the Extended Programme of Action for the Africa Regional Strategy for Disaster Risk Reduction to align it with the Hyogo Framework for Action, with the additional objectives added, such as integration of climate change.

The Programme of Action defines a number of priority programmes, specifically advocacy and public awareness, and knowledge management and capacity development, to be implemented to help achieve the goal of "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 and other development aims in Africa." In line with the Africa Regional Strategy and the Hyogo Framework for Action, the specific objectives of the programme are to:

- (i) Mainstream risk reduction management and climate change adaptation as an integral part of sustainable development, and related programmes;
- (ii) Strengthen long-term capacities at regional and subregional levels to systematically contribute to building resilience to natural hazards;
- (iii) Develop and maintain sustainable mechanisms of coordination at regional and subregional levels to support the implementation of the Africa Strategy and the Programme of Action for disaster risk reduction;
- (iv) Strengthen national mechanisms, legislative frameworks and capacities at national levels for mainstreaming and implementing disaster risk reduction strategies and programmes.

The Programme of Action is complemented by the Declaration of the Second African Ministerial Conference on Disaster Risk Reduction (2010) identifying a set of 18 specific actions that various stakeholders need to undertake, including the mobilization of political commitment, increased investment in disaster risk reduction, the creation of African Risk Capacity, a financing pool, and the reconstitution of the Africa Working Group on Disaster Risk Reduction. These actions have informed some of the concrete achievements in the implementation of disaster risk reduction in Africa.

The Strategy and its Programme of Action, together with the Hyogo Framework for Action, provide a comprehensive framework for the implementation and mainstreaming of disaster risk reduction, with a clear identification of the roles and responsibilities for implementation.

However, there has been no comprehensive report on monitoring of implementation of the Strategy and its Programme of Action. Reviews of progress in implementation take place during the forums of the Africa Regional Platform for Disaster Risk Reduction and during the preparations of regional reports to the Global Platform for Disaster Risk Reduction. These are undertaken mainly with support from UNISDR. The main lesson is that there is a need to build capacity at the regional and subregional level to coordinate and systematically monitor the implementation the Strategy and Programme of Action. The Africa Working Group on Disaster Risk Reduction, as the main coordinating mechanism, has been tasked to perform this role, but is hindered by a lack of resources and institutional capacity within the African Union secretariat.

(d) *African Risk Capacity*

African Risk Capacity is a tangible example of translating policy statements at the regional level into an actual programme. It is based on a call made in the Declaration of the Second African Ministerial Conference on Disaster Risk Reduction in 2010, which requested the African Union Commission “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”. The outcome was the establishment of African Risk Capacity as a specialized agency of the African Union to address the rather ad hoc unpredictable nature of funding for disaster response. African Risk Capacity is a facility with initial donor contributions and ongoing premium payments from member States that participate on a voluntary basis, allowing member States to draw on funds for disaster emergency response. So far only six countries have signed up to Africa Risk Capacity. Many countries are wary of their ability to sustain funding after the initial donor contribution. Subregional bodies such as IGAD have also developed alternative funding approaches.

While initially covering only drought as a major threat, coverage of other naturally occurring hazards such as floods, earthquakes and cyclones is envisaged to facilitate the participation of more countries.

(e) *Other relevant regional frameworks*

There are a number of other regional frameworks that address different aspects of disaster risk management. Among these are the draft African Union Humanitarian Policy Framework, the draft African Union Disaster Management Policy, the African Union Post-Conflict Reconstruction and Development Policy, Africa Risk Capacity and the Joint Africa-

Arab Fund for Disaster Response. This demonstrates the wide range of disaster risk reduction-related programmes being pursued at the regional level, and highlights the importance of rationalization and adoption of an integrated comprehensive approach.

- (i) *The draft African Union Humanitarian Policy Framework:* Based on the African Union Strategic Plan 2009-2013, the African Union Humanitarian Policy was developed to address the challenging humanitarian situation in Africa, which is exacerbated by the inadequacy of existing emergency management mechanisms. This inadequacy has resulted in a large number of forced displacements, including refugees and internally displaced persons, on the continent due to conflicts, and natural and man-made disasters. The draft policy framework, which is awaiting Ministerial approval, provides the African Union and other humanitarian partners with the necessary principles and guidelines for a more effective response in the area of preparedness, response, mitigation and capacity building to address humanitarian situations on the continent.

The policy objectives include protecting the needs of vulnerable people, alleviating the plight of people affected by disasters and complex emergencies and assisting regional economic communities and respective member States to develop their own capacity for disaster risk management and planning of humanitarian training support. The other objectives of the policy are to promote humanitarian dialogue and create an enabling space for humanitarian action; create closer links between peace and security and development and humanitarian programmes; and promote enhanced partnerships and funding opportunities.

- (ii) *The draft African Union Disaster Management Policy:* Elaborates aspects of the draft humanitarian policy and is more closely linked to Priority 5 of the Hyogo Framework for Action and the Africa Regional Strategy for Disaster Risk Reduction. It seeks to build continental capacity for early warning, preparedness and response, among other objectives.
- (iii) *African Union Convention for the Protection and Assistance of Internally Displaced Persons in Africa (Kampala Convention) 2009, the 1969 Convention Governing the Specific Aspects of Refugee Problem in Africa, the African Charter on the Rights and Welfare of the Child and the African Charter on Human and Peoples' Rights:* These are other African Union instruments or frameworks relevant to humanitarian action. They are designed to tackle vulnerabilities of specific social groups.
- (iv) *African Union Post-Conflict Reconstruction and Development Policy:* This addresses issues of post-conflict reconstruction as well as humanitarian action in post-conflict areas. The policy derives its specific mandate from the Protocol relating to the Establishment of Peace and Security Council of the African Union. Among the core activities of Peace and Security Council are peace building, post-conflict reconstruction, humanitarian action and disaster management. Among the six indicative elements of the Policy is humanitarian/emergency assistance, with specific objectives including the creation of an enabling political and legal environment for humanitarian action, the prioritization of preparedness at national, regional and international levels, and the strengthening of institutional measures for humanitarian action.

3.2 Subregional level

3.2.1 Overview

Nearly all five subregions (East African Community (EAC), Economic Community of Central African States (ECCAS), Economic Community of West African States (ECOWAS), the Inter-Governmental Authority for Development (IGAD) and the Southern African Development Community (SADC) have developed a disaster risk management or disaster management policy or strategy. IGAD and SADC have had disaster risk management policies or strategies since early 2000 and these are being revised to accommodate new and emerging challenges and priorities such as climate change. The SADC Strategy is currently under review. ECOWAS adopted a disaster risk reduction policy in 2006. This was followed by the development of an Action Plan to implement the policy. The EAC recently adopted a disaster risk reduction strategy. All these frameworks derive their mandates from the constitutive acts of the respective regional economic communities. ECCAS has lagged behind in the development of a comprehensive disaster risk management framework, apart from the Yaoundé Declaration. The main reason for this is that due to persistent conflicts in many ECCAS countries, the regional economic community has been preoccupied with issues of security. Disaster risk reduction and other social and economic development concerns have therefore not received that much attention.

Some subregions have gone further to address specific issues of humanitarian action. ECOWAS is leading the pack, with the ECOWAS Humanitarian Policy (2012-2017), adopted in 2012, and its accompanying Plan of Action. ECOWAS also has an Emergency Response Team comprising experts drawn from member States and the ECOWAS Peace Fund has been used for emergency response activities to resettle refugees in Liberia and Sierra Leone. IGAD has an emergency response mechanism including a fund contributed to by member States. In SADC, establishment of these mechanisms are still in the planning stages due to limited resources and capacity. Further information is required to clarify the situation with respect to humanitarian issues in the EAC.

The increasing adoption of common frameworks, policies or legislation in areas such as immigration and customs is leading to greater subregional integration, facilitating movement of peoples and goods across borders. This will also facilitate more efficient transborder disaster risk management. The EAC, SADC and ECOWAS have common customs, and in East and West Africa there are already concerted efforts to facilitate free movement of citizens of member States across national borders. Some disaster risk reduction frameworks of the individual regional economic communities are briefly discussed below.

3.2.2 East African Community

The East African Community has four key instruments that provide guidance on the mainstreaming and implementation of disaster risk reduction. These are as follows: the Treaty for the Establishment of East African Community, as amended in August 2007, hereafter referred to as the EAC Treaty; the EAC Protocol on Environment and Natural Resource Management; the EAC Protocol on Peace and Security; and the EAC Climate Change Policy. There are also a number of sectoral strategies that address disaster risk reduction, which are briefly mentioned below.

The Treaty for the Establishment of East African Community: The EAC Treaty provides the overall mandate for the development of disaster risk reduction and climate change instruments. Although it makes no specific provision for disaster risk reduction, the objectives of the Treaty described in Article 6 provide the basis for sectoral policies. Indeed most of the policies adhere to the fundamental principles enunciated in this Treaty.

EAC Protocol on Environment and Natural Resource Management: The Protocol provides the main motivation and mandate for EAC's environment, climate change and disaster risk reduction policies and strategies. Articles 9-35 of the Protocol cover a range of aspects that are pertinent to environmental sustainability in the subregion and are thus key to disaster risk management.

EAC Climate Change Policy: This Policy was developed following a directive from the Heads of State of the EAC member States to its Secretariat. The policy was adopted in April 2011. The policy responds to the high vulnerability of the subregion and is intended to address the adverse impacts of climate change in the subregion and to harness any potential opportunities posed by climate change within the principle of sustainable development.

The overall goal is to contribute to sustainable development in the EAC subregion through harmonized and coordinated subregional strategies, programmes and actions to respond to climate change. The specific policy objectives include the establishment of subregional policy, regulatory, institutional and legislative frameworks to guide the harmonization, coordination and implementation of climate change initiatives amongst Partner States.

The policy considers disaster risk reduction as one of the priority tools for the sectoral approach to the mainstreaming of climate change adaptation in to national development planning. Promoting the concept of disaster risk reduction through the five priorities areas of the Hyogo Framework for Action and implementing the Africa Regional Strategy for Disaster Risk Reduction is one of the priorities activities identified in the policy.

The Strategy and the EAC Protocol on Environment and Natural Resource Management thus provide comprehensive and action-oriented frameworks for multisectoral mainstreaming of disaster risk reduction. These frameworks identify synergies between climate change, disaster risk reduction and environment, thus providing concrete guidance to member States for multidisciplinary integration of disaster risk reduction.

The EAC Protocol on Peace and Security: The EAC Protocol on Peace and Security was signed by the five Partner States of the East African Community in February 2013. The Protocol updates and supersedes the EAC Strategy on Peace and Security of 2006. The objective of the Protocol is to promote peace, security and stability within the Community and in neighbouring States. Through the Protocol, Partner States have agreed to cooperate in a number of areas including: conflict prevention, management and resolution; prevention of genocide; combating terrorism; disaster risk reduction, management and response; management of refugees; and addressing and combating cattle rustling.

The protocol commits Partner States of the Community to protecting the people and safeguarding the community against instability resulting from a breakdown in law and order and inter or intra-State conflict and aggression. Partners States commit to coordinating and cooperating in matters of peace and security in the Community and to developing capacity in

a number of areas including peacekeeping, disaster risk management, humanitarian response and management of refugees, and combating terrorism.

Article 9 of the Protocol, in particular, calls upon Partners States to develop mechanisms for mutual assistance in disaster management and crisis response and in particular to develop an early warning and response system for common disasters within the region, establish a database for disaster management, and develop capacity to manage disaster situations.

The Protocol reinforces the commitments to disaster risk reduction made in the Africa Regional Strategy for Disaster Risk Reduction, the EAC Protocol on Environment and Natural Resource Management, the EAC Climate Change Policy and a number of other sectoral frameworks.

In addition to the frameworks outlined above, the EAC has also established an EAC Climate Change Fund; a Disaster Risk Reduction Unit, as well as a subregional disaster risk reduction platform and the working group known as the EAC Partner States' Heads of Disaster Risk Reduction and Management Coordination. This is one of the seven working groups established under the Committee on Environment and Natural Resources.

It is clear that disaster risk management is considered an integral part of the social and economic development of the EAC. The challenge for the Community and its Partner States is that of implementation and how these frameworks will translate into concrete action towards reducing risk and vulnerability and building the resilience of the communities within the region.

3.2.3 Economic Community of Central African States

Emerging from conflict situations, the ECCAS subregion has made some progress in putting in place policies, strategies and structures for disaster risk management. The Disaster Risk Management and Climate Change Units in ECCAS come under the Department of Physical, Monetary and Economic Integration. The Disaster Risk Management Unit collaborates with the Department of Peace and Security. However, due to concerns about peace and security issues in the region, there has not been much progress in the development of disaster risk reduction institutions and frameworks within ECCAS.

Environment and Natural Resources Policy (2007) is the main instrument driving the disaster risk management agenda in the subregion. Among the strategic areas addressed by the Policy are disaster risk reduction and early warning, climate change, and land degradation. The following tools have been developed to implement the policy:

- (i) Subregional Strategy on Risk Prevention, Disaster Management and Climate Change Adaptation;
- (ii) Yaoundé Action Plan for Improving Disaster Preparedness and Response in Central Africa (Five-year Action Plan). The plan provides a road map for disaster management in the ECCAS subregion;
- (iii) A Three-Year Action Plan for Disaster Risk Reduction (2012-2015) to implement the Hyogo Framework for Action.

These tools and frameworks were developed through subregional consultations on disaster preparedness. ECCAS Ministers, through the Libreville Declaration of 13 June 2012, adopted all the three tools.

The planned priority actions within the Community include the setting up of an emergency response team. With support from OCHA, a team of experts is to be selected from member States and trained in coordination and assessment as an initial capacity-building process. The team is expected to constitute a virtual coordination mechanism. Training in military coordination during emergencies is also planned. The priority actions also include resource mobilization and strengthening prevention and early warning against natural disasters. ECCAS has been working with WMO and the African Center of Meteorological Application for Development towards the establishment of a climate services centre for the subregion.

ECCAS has no specific structure that deals with disaster risk management; an expert in disaster management and climate change works in the Department of Physical, Monetary and Economic Integration and is supported by a disaster risk reduction advisor as part of technical assistance from UNISDR. An ECCAS report indicates that a Department of Humanitarian Affairs has been established, but details of functions and operations are not available (ECCAS, 2006).

3.2.4 Economic Community of West African States

The ECOWAS founding treaty was revised in 1993 and includes articles related to the strengthening of disaster management institutions, the establishment of hazard early warning systems, and the provision of food aid, within the ECOWAS poverty reduction, security and sustainable development agenda. The ECOWAS disaster risk management and humanitarian action mechanisms derive their mandate from the treaty.

ECOWAS Policy for Disaster Risk Reduction: The Policy was developed and adopted by the Authority of Heads of State and Government at the Thirty-first Ordinary Summit in Ouagadougou on 19 January 2007. The main objective of the Policy is to facilitate sustainable integration and development of West African States and Governments through promoting and supporting effective disaster risk management that helps to create safer and more resilient communities in social, economic and environmental terms. The Policy focuses on reducing disaster risks through development interventions.

Programme of Action for the Implementation of the ECOWAS Policy for Disaster Risk Reduction, 2010-2014: This was developed to implement the ECOWAS Policy for Disaster Risk Reduction. The Programme of Action contains a number of strategic priorities for the development of capacities for disaster risk reduction in West Africa, with a focus on five thematic areas related to the Policy and the Hyogo Framework for Action. The thematic areas are the development of institutional capacities for disaster forecasting, prevention, early warning, mitigation of effects and rebuilding for future risk reduction. Activities with a focus on institutionalization are prominent for implementation of the Policy, and include the establishment of viable national platforms; mainstreaming disaster risk reduction into development planning, especially through Poverty Reduction Strategy Papers; development of the ECOWAS Interdepartmental Coordinating Committee; and the establishment of effective disaster risk reduction structures downstream within member States.

Humanitarian Policy: ECOWAS developed a Humanitarian Policy in 2012. The policy seeks “to standardize the practice of humanitarian action in ECOWAS member States by fostering a balanced linkage between humanitarian action, human security and human development throughout ECOWAS based on the principles of borderless solidarity.” The vision is the creation of a borderless subregion with the capacity to effectively prevent, mitigate, prepare for and limit the impact of conflicts and disasters on citizens of the subregion as part of the achievement of people-centred development. The Policy addresses four priority areas namely conflict, natural disasters, human made disasters, and mixed migration and refugee protection.

The strategic objectives of the policy include ensuring appropriate legal and policy frameworks for preventing and responding to emergencies and disasters and developing and strengthening institutions for managing emergencies and responding to humanitarian challenges. The other strategic objectives of the policy are enhancing the capacities of social actors in responding to humanitarian action; ensuring the compliance of member States and citizens with international humanitarian law as a means of preventing and mitigating conflict-related impacts on the civilian populace; and promoting special measures for the protection of vulnerable persons. The policy also established the ECOWAS Humanitarian Relief Fund.

Plan of Action of the ECOWAS Humanitarian Policy 2012-2017: This provides an operational framework for the implementation of the policy. The Plan requires ECOWAS member States to adopt and implement national disaster management policies and action plans and to establish specific national agencies for disaster management, at the highest levels of government.

In addition to the aforementioned instruments, ECOWAS has sectoral protocols, policies and strategies related to development that are relevant to disaster risk management and humanitarian action. This covers sectors such as agriculture, environment, industry, energy, science and technology, and health. Protocols relating to customs, immigration and the movement of people and goods as well as protocols relating to mechanisms for conflict management and prevention are relevant to disaster risk management and humanitarian action.

Other frameworks relevant to humanitarian action are the Joint ECCAS/ ECOWAS Plan of Action against Trafficking in Persons, especially women and children in West and Central Africa (2006-2009) and Supplementary Protocol A/P1/12/99 of 10th December 1999 relating to the Mechanism for Conflict Prevention, Management, Resolution, Peacekeeping and Security.

There are also guiding documents such as the Treaty of ECOWAS, ECOWAS Vision 2020: Towards A Democratic and Prosperous Community, the Protocol on Democracy and Good Governance and the ECOWAS Community Development Programme, all of which provide mandates and guidance for good governance, development and more effective disaster risk management and humanitarian action. Other relevant documents are the Convention A/P.5/5/82 for Mutual Administrative Assistance in Customs Matters; Convention A/P/P.4/82 Relating to Inter-States Road Transit of Goods; and Protocol A/P1/5/75 on the free movement of persons and the right of residence, which aims to abolish all obstacles to the free movement and right of residence of ECOWAS citizens within the Community.

The ECOWAS Commission Department of Humanitarian and Social Affairs has a Disaster Management Unit and Humanitarian Affairs Division, which between them share experts, one for disaster risk reduction and two for humanitarian issues. ECOWAS also has an Emergency Response Team composed of experts from member States and the ECOWAS Peace Fund has been used for emergency response activities to resettle refugees in Liberia and Sierra Leone.

ECOWAS has a subregional platform on disaster risk reduction and has been very active in establishing and building capacities of national platforms in about 10 of its member States.

3.2.5 Intergovernmental Authority for Development

Regional Disaster Risk Management Strategy and Programme: IGAD developed a Regional Disaster Risk Management Strategy and Programme in 1999, which was revised and endorsed by its policy organs in 2004. The objective of the Programme is to enhance the disaster risk management capabilities of IGAD and improve the capacity of member states to develop comprehensive disaster risk management strategies and plans through managing the risks rather than the disaster itself. In order to support the implementation of the Programme, IGAD facilitates capacity-building of its member States for disaster risk reduction.

IGAD is in the process of launching country and subregional Hazard Maps and Atlas for major prioritized hazards of a subregional nature to establish and strengthen subregional capacity for the assessment and monitoring of transboundary hazards and related disasters.

In September 2011, the Joint IGAD and EAC Summit of Heads of State adopted instruments to end drought in the Horn of Africa, including the Declaration of the Joint IGAD and EAC Summit on the Horn of Africa Crisis: Ending Drought Emergencies: A Commitment to Sustainable Solutions,; and the Nairobi Strategy: Enhanced Partnership to Eradicate Drought Emergencies.

Both call for a new and focused approach, which is preventive rather than reactive, and holistic, rather than emergency-oriented. Such an approach should recognize existing frameworks and mechanisms for disaster risk reduction, namely the Hyogo Framework for Action and the Africa Regional Strategy for Disaster Risk Reduction, encompassing the continuum of relief, recovery, reconstruction, innovation and long-term development towards sustainable development to ensure drought resilience and food security.

They call for the reform of the emergency response system in favour of a more productive approach in order to promote self-sufficiency and discourage dependency. This includes expanding a social safety net, including cash transfer programmes to the poor, which will stimulate local economies and save on logistical costs.

IGAD Conflict Early Warning and Response Mechanism: This is a mechanism that systematically anticipates and responds to violent conflicts in a timely and effective manner. Its mission is to establish itself as an effective and sustainable subregional mechanism that undertakes conflict early warning and early response actions and fosters cooperation among relevant stakeholders in order to respond to potential and actual violent conflicts in the subregion in a timely manner. It cooperates closely with the IGAD Climate Prediction and Application Centre due to interactions of the issues being addressed by the individual institutions (IGAD, 2013).

IGAD is in the process of establishing and operationalizing a subregional disaster response fund (the IGAD Disaster Response Fund) to strengthen preparedness for timely response to disasters of a national and subregional nature. The fund will be constituted partly from member State contributions.

The IGAD Climate Prediction and Applications Centre is responsible for coordinating all subregional climate risk reduction-related issues in the subregion. It provides climate information, including predictions and early warnings in support of environmental management, disaster risk reduction and sustainable development in the IGAD subregion, and supports capacity-building for users of its information and services.

The Technical Advisory Committee, comprising members of member States, serves as the subregional platform for coordination and monitoring of the implementation of the IGAD Disaster Risk Management Programme, while at the policy level, the responsibility rests with the Ministerial Committee, composed of Ministers in charge of disaster risk management institutions.

3.2.6 Southern African Development Community

Although the SADC Treaty does not specifically refer to disaster risk management and humanitarian action, the SADC objectives articulated in Article 5 (a) and (g) provide the constitutional basis for the establishment of institutions and development of measures for disaster risk reduction and humanitarian action. These objectives relate to achievement of development and economic growth, alleviation of poverty, enhancing the standard and quality of life of the people of Southern Africa and protection of the most vulnerable populations, and achievement of the sustainable use of natural resources and protection of the environment.

Disaster Risk Reduction Strategic Plan: The SADC subregion was the first African regional economic community to draft a disaster risk reduction strategy. Developed in 2001, the strategy was reviewed in 2006 and again in 2011 to align it with the priority areas and objectives and the timeframe of the Hyogo Framework for Action. The 2011-2015, version remains in draft form, and is to be reviewed further to provide a multisectoral framework integrating other sectors such as environment, water, agriculture and food security, climate change and others.

SADC disaster risk management policy: A disaster risk management policy has also been drafted at the behest of the Deputy Executive Secretary of SADC, but remains in draft. The Strategic Indicative Plan of the Organ on Defence, Politics and Security provides for disaster risk reduction and humanitarian response. The Organ is mandated to deal with issues of security, disaster risk reduction, public security and humanitarian affairs, including refugees and human trafficking. The current SADC disaster risk reduction programme has three pillars namely strengthening disaster risk reduction coordinating capacity; strengthening disaster risk reduction information management systems; and building response capacity. Under the first and last pillar, the development of a subregional humanitarian policy and establishment of a subregional disaster preparedness, emergency and humanitarian response mechanism is planned. This includes the establishment of emergency response teams. This is in line with the objectives of the African Union Humanitarian Policy. Under pillar 2, strengthening information management for disaster risk reduction, an inventory of national disaster risk reduction capacities and establishment of a database are planned, which should benefit from this current African Union process.

Institutional mechanisms: The SADC Disaster Risk Reduction Unit falls under the Organ for Politics, Defence and Security, which reports directly to the Executive Secretary and is therefore in a position to effectively coordinate other sectors. With support from the European Union, the Unit is being strengthened. Already two additional staff members are in place to support the Disaster Risk Reduction Liaison Officer.

SADC also has a number of other institutions or processes dealing with disaster risk reduction and climate change, such as the SADC Regional Vulnerability Assessment Committee, which was established in 1999 and works through 10 of the 15 National Vulnerability Assessment Committees of the 15 SADC member States. There are also a number of institutions that provide climate and early warning information. The Climate Services Centre, formerly the Drought Monitoring Centre, provides regional services for monitoring and predicting extreme climate conditions. The Centre develops and disseminates meteorological, environmental and hydrometeorological products. The Southern Africa Regional Climate Outlook Forum is the process by which the climate information is disseminated. The Forum brings together national disaster risk management offices, national meteorological departments and other stakeholders to disseminate seasonal climate forecasts and predictions.

3.2.7 Arab subregion

Arab Strategy for Disaster Risk Reduction 2020 draws its inspiration from commitment to the Millennium Development Goals. It is in line with the role identified for regional intergovernmental organizations in the Hyogo Framework for Action. The League of Arab States took the lead in promoting the integration of disaster risk reduction measures into regional policies on sustainable development, climate change adaptation, environment and disaster management coordination mechanisms. Additionally, the need to articulate a strategic approach to protect Arab socioeconomic development gains by enhancing the effectiveness of disaster risk management measures, and adopting of risk reduction strategies and climate change adaptation plans, has been prominently stated in recent regional forums.

As a follow-up to the first Arab Summit for Economic and Social Development, the Council of Arab Ministers Responsible for the Environment adopted specific actions relating to disaster risk reduction through a significant decision on 24 May 2009 calling for the development of an Arab Strategy for Disaster Risk Reduction to:

- (i) Outline a vision, strategic priorities and core areas of implementation for disaster risk reduction in the Arab subregion;
- (ii) Enhance institutional and coordination mechanisms, and monitoring arrangements to support the implementation of the Strategy at the subregional, national and local levels through preparation of a Programme of Action.

The Arab Strategy for Disaster Risk Reduction 2020 was developed through the participation of and collaboration with United Nations agencies and subregional structures led by the League of Arab States. The Strategy takes into account various regional strategies and programmes for disaster risk reduction already developed by the African Union, Asia-Pacific Economic Cooperation, the Association of Southeast Asian Nations, and the Euro-Mediterranean Partnership Programme for the Prevention, Preparedness and Response to Natural and Man-made Disasters and the Organization of Islamic Cooperation.

The Strategy complements existing and ongoing efforts in disaster risk reduction by national institutions and regional technical organizations. Taking into account the global priorities for disaster risk reduction in the Hyogo Framework for Action, the five corresponding priorities of the Arab Strategy are:

- (i) Strengthen commitment for comprehensive disaster risk reduction across sectors;
- (ii) Develop capacities to identify, assess and monitor disaster risks;
- (iii) Build resilience through knowledge, advocacy, research and training;
- (iv) Improve accountability for disaster risk management at the subnational and local level;
- (v) Integrate disaster risk reduction into emergency response, preparedness and recovery.

These core areas of implementation would be included in a detailed Programme of Action (2011-2015) to be finalized in 2011. The expected outcome of the Strategy is the substantial reduction of losses in life and in the social, economic and environmental assets of communities and countries across the Arab region as a result of disasters.

3.3 National level

This section provides an overview of disaster risk reduction policy, legal and institutional frameworks across the continent with some illustrations drawn from the reports of the subregional and national studies

Table 8 provides information on the overall status of policy, legal and institutional frameworks in Africa.

Table 8
Summary of disaster risk reduction frameworks and institutions

Country	Policy	Legislation	Strategy/Plan	Disaster Risk Reduction Unit	National Platform
1. Algeria	No	Yes			
2. Angola				Yes	
3. Benin	No	Yes	Yes	Yes	No
4. Botswana	Yes 1996	No	Yes 2010	NDMO (OP)	NDMTC
5. Burkina Faso	No	Draft (to be enacted April 2014)	PAP 2006-2008 Contingency Plan	CONASUR	
6. Burundi	Yes	Yes	Yes	DDPM (MoI)	Yes
7. Cameroon	No	No	Contingency Plans	Dept. Civil Protection	Yes
8. Cabo Verde		Yes	Yes	SNPC DCP	Yes 2007
9. Central African Republic	No	No	Environmental Action Plan	DSA	No

10. Chad	No	No	No	DCP	No
11. The Comoros	No	No		DCP	Yes 2007
12. Congo	Yes (In the Constitution)	Yes	Yes	Min. of Environ	Yes 2004
13. Côte D' Ivoire	Yes	No		Office of Civilian Protection	Yes 2009
14. Democratic Republic of the Congo	Yes	No	No	MSHA	National Crisis Committee
15. Djibouti	No	Yes	Strategy 2004	D RDM Min ofI&Dec	Yes
16. Egypt	No	Yes (Constitution and Decrees)	Yes	IDSC (Cabinet)	NCCMDRR
17. Equatorial Guinea	No	Constitution	No	No	No
18. Eritrea	No	No	No	MND	No
19. Ethiopia	Yes		Yes	DRMFSS (MOARD)	Yes
20. Gabon	No	Decree 2004	Draft Count. Plan and Strategy	Directorate of RR	No
21. Gambia	No	Act 2008	No	NDMA (OVP)	Yes
22. Ghana	No	Act 1996	No	NADMO (MoI)	Yes
23. Guinea Bissau	No	No	No		No
24. Guinea	Yes	Yes		Unit (MofAEWF)	Yes
25. Kenya	Draft	Draft	Draft	DRRD (OP)	
26. Lesotho	Yes	Under review to integrate disaster risk reduction	Yes	DMA OPM	Yes (2007)
27. Liberia	Yes 2007	No		NDMC	Yes
28. Libya	No	No	No	MoI	No
29. Madagascar	No	Yes		BNGRC	Yes 2003
30. Malawi	Yes (under review to integrate disaster risk reduction)	Draft Disaster prepared and Relief Act (1991) Being revised to integrate DTRR	Yes	DDMA (OP)	Yes (NDPRTC)
31. Mali	No	In Draft	No	DGPC	Yes 2005
32. Mauritania	No	Yes	Yes 2007	NCCP (MoI)	Yes
33. Mauritius	Draft	Draft	Draft	DRRMC OPM	Yes
34. Morocco	No	Yes		CVC	
35. Mozambique	Yes 1999	Constitutional provision/ Draft Bill	Yes	INGC Mof State Admin	CTGC
36. Namibia	Yes	Draft		DDRM (OPM)	Yes NDRMC
37. The Niger	No	No	No	NCFCPM	Yes 2006

38. Nigeria	Yes	Yes	Yes	NEMA (OP)	Yes 2005
39. Rwanda	Yes	Draft ready in 2012 No	Yes	MDMRA (Ministry)	Yes
40. Sao Tome and Principe	No	No	No	OCECP	
41. Senegal	No	No	Yes	DCP	Yes 2009
42. Seychelles	Yes	Draft	Yes	DRDM Min of Envir/Energy	NDMC
43. Sierra Leone	Draft	Draft	Draft	NDMD	Yes
44. Somalia	No	No	No	Nat Tsunami DM Bureau	No
45. South Africa	No	Yes	Yes	NDMC	NDMAF
46. South Sudan				MDMHA	
47. The Sudan	Yes	Constitution		HAC/ MHA	NO
48. Swaziland	Yes	Yes	Yes	NDMA	NSDMC
49. Togo	No	Yes	Yes		Yes 2007
50. Tunisia	No	Yes	Yes	PNC	
51. Uganda	Yes	No	Yes	DDMR	Yes
52. United Republic of Tanzania	Yes	Yes		DMD (OPM)	Yes 2007
53. Zambia	Yes	Yes	No	DDMU (OVP)	NDMCF 2006
54. Zimbabwe	No [draft]	Yes [1989]	Draft	DCP [Local Gvt]	Yes

Source: Hyogo Framework for Action National Progress Reports.

As indicated in the table, out of the 54 countries, 21 countries (44 per cent) currently have disaster management/disaster risk reduction policies, with three countries having them in draft form. Twenty-three countries have legislative frameworks governing disaster risk management activities; three of them have provisions on disaster risk management in their Constitutions. Nine countries reported having legislation in draft or under review. Including legislation under review, these this means that 42 per cent of countries have legislative frameworks, with the percentage rising to 59 per cent if the legislation that are in draft form are included. Twenty-four countries reported having some form of a plan, including strategic plans, national disaster management plans and contingency plans. Several countries reported having contingency plans for specific disasters, in sectors such as health, environment and technological disasters. The SADC subregional report, which has examined in detail various frameworks in the SADC subregion, concludes that disaster risk reduction policies had either been passed or were still in draft, while a few countries had not yet approved disaster risk reduction strategies or plans. This is consistent with the overall pattern across Africa.

As regards institutional mechanisms, 51 (91 per cent) of the 54 African Union member States (including the South Sudan, Africa's newest State) have a unit, department or ministry with a mandate for disaster risk management of humanitarian affairs. Out of these, a significant number, approximately 20 per cent, are located in Ministries or Units for civil protection or interior and/or home affairs, while about 26 per cent are placed within Offices of the President, Vice President, Prime Minister or are an independent ministry or agency. Disaster risk reduction offices placed in Ministries of civil protection or home affairs appear to have made the paradigm shift, while those placed in the Offices of Presidents or Prime Ministers may have greater coordinating authority to facilitate the mainstreaming of disaster

risk reduction. We currently have no information on three countries, namely, Algeria, Guinea Bissau and Togo, which of course does not indicate the absence of relevant structures.

The latest report from the fifth Africa Regional Platform for Disaster Risk Reduction states that 35 (65 per cent) of countries in Africa have national platforms. This is a fairly significant number. However, with the exceptions of countries such as Ghana and Uganda, which are often cited as best practices, the operational effectiveness of these national platforms has remained a cause for concern.

Disaster risk reduction policies and legislation and the existence of institutions at the highest level of government provide the basis for effective mainstreaming of disaster risk reduction. Given this premise, it would suggest that the priority given to disaster risk reduction across the continent has been less than adequate. Although the majority (91 per cent) of African countries now have fairly established mechanisms (ministries, departments, divisions) responsible for disaster risk management, less than 50 per cent have reported the existence of relevant policies. In addition, it would be important to undertake detailed content analysis of these documents to determine the extent to which a paradigm shift from preparedness and response to disaster risk reduction has taken place.

Existence of legislation to back up policies is further evidence of political commitment to the implementation of disaster risk reduction. Information from the SADC subregion indicates that the legal frameworks on disaster risk reduction that have either been passed or are in draft form all incorporate the elements of the Hyogo Framework for Action. In addition, the legislation provide national coordination mechanisms, decentralization of power to subnational authorities and are generally explicit on the role of sectors in mainstreaming disaster risk reduction. Examples can be found in Lesotho, Mauritius and Malawi and Zambia. In relation to funding, the laws are explicit on response and less explicit on prevention, with the former regarded as responsibility of the national disaster management organization, while the latter is assumed to be the responsibility of the relevant ministry for different sectors.

With regard to disaster risk reduction management structures, many of these structures were also established within the disaster preparedness and response paradigm, and so in a significant number of countries' disaster risk management units are still placed within ministries or departments of civil protection or home/internal affairs. These institutions are security- or emergency-oriented rather than development-oriented. Where these units are placed under the Office of the Prime Minister, Vice President or President, there are clear indications that a broad and multisectoral approach to disaster risk reduction, including the integration of climate change issues, is becoming more common. The SADC experience further demonstrates the variations in institutional power and authority accorded to national disaster management organizations to effectively mainstream and implement disaster risk reduction. In South Africa and Zimbabwe, the national disaster management organization forms one directorate within a ministry, suggesting limited power and authority in effectively mainstreaming and implementing disaster risk reduction compared with Namibia and Zambia where the national disaster management organization is located in either the Office of the President or the Prime Minister.

Another indication of progress towards mainstreaming of disaster risk reduction is the existence of national platforms. We have noted that only few are known to be effective tools for mainstreaming.

Chapter 4: Mainstreaming and implementing disaster risk reduction measures in Africa

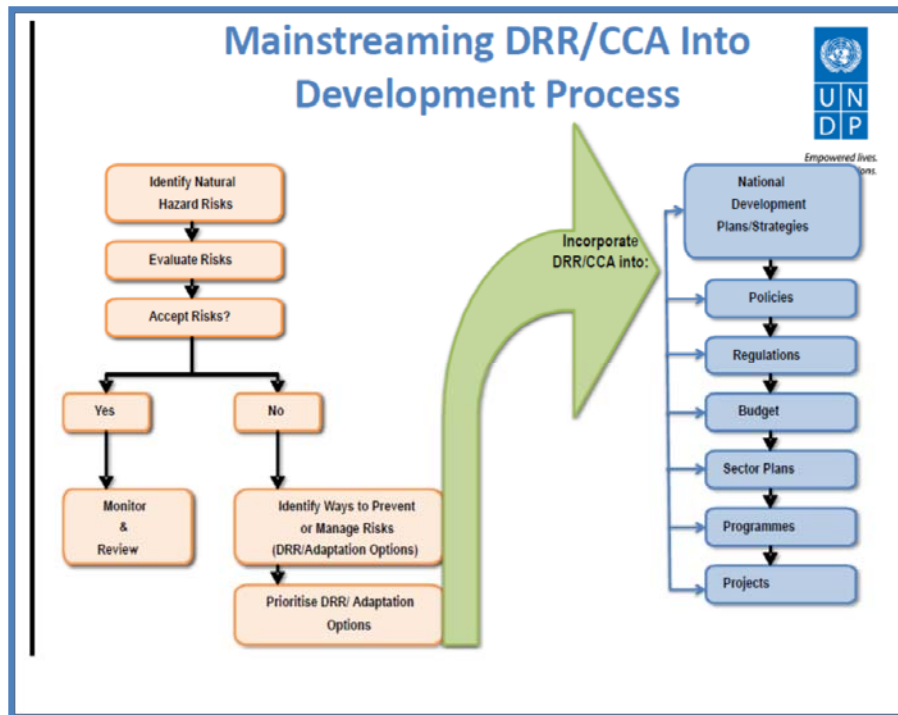
4.1 Overview of the concept of disaster risk reduction mainstreaming and its significance in disaster risk reduction/resilience

Defining mainstreaming

Just as disasters affect a wide range of social elements and economic sectors, ranging from individuals, to local, national, regional and global communities as well as economic and social sectors, disaster risks need to be tackled at a variety of levels.

As illustrated in Figure 8, the mainstreaming of disaster risk reduction requires addressing both risk factors and the impacts of disasters. Mainstreaming of disaster risk reduction can be defined as any actions, processes and practices that take into consideration and integrate risk factors and the possible effects of disaster, and that identify and promote disaster risk reduction as a key social, economic and developmental agenda. It thus seeks to integrate disaster risk reduction into conceptual, strategic frameworks as well as institutional thinking, and to translate these into programmes and activities at all levels. (UNDP, 2010; Tearfund, 2005; Mitchell, 2005; ProVention Consortium, 2009). Disaster risk reduction therefore becomes an important component of sustainable development, while development contributes to disaster risk reduction through reducing vulnerability and building resilience. The United Nations Global Assessment Report on Disaster Risk Reduction 2013 concludes that globally, countries and organizations report the least progress on the achievement Priority 4 of the Hyogo Framework for Action, which is to “reduce the underlying risk factors”, suggesting that member States find it challenging to mainstream disaster risk reduction into regular development programmes. There is increased emphasis on taking concrete measures to address underlying risk drivers including poverty, hunger, disease, conflict, violence, unemployment, land degradation, displacement, forced migration, discrimination, and inadequate health services, education, infrastructure, water and sanitation services and housing.

Figure 8
Mainstreaming disaster risk reduction into the development process



Source: UNDP, 2013

The complexity of mainstreaming can be seen in the range of actions required to address disaster risks. These include addressing the health burden of disasters and the consequences for community development; systematically applying the International Health Regulations (2005); promoting education services and systems; and committing to safe, uninterrupted education and other measures identified in the Children's Charter for Disaster Risk Reduction. Utilizing established mechanisms for environmental protection, such as environment impact assessments and strategic environmental assessments, is important for mainstreaming. Other key mainstreaming actions include putting in place systems for management of protected areas and integrated water resource and coastal zone management to address environmental degradation, strengthen livelihoods and address disaster risk. Leveraging existing social protection mechanisms to target vulnerable households is another important element in mainstreaming disaster risk reduction.

Fighting poverty, environmental degradation and the devastating consequences of disasters caused by vulnerability and natural hazards are objectives that can only be accomplished if they are undertaken in an integrated manner, promoting sustainable development policies at different levels, by diverse stakeholders, with a multisectoral approach. (Delnet, ILO, 2006)

The following helps to capture the essence of mainstreaming:

- (i) Incorporating disaster risk reduction as a conventional, everyday part of development;
- (ii) Making disaster risk reduction a normal, typical, conventional, ordinary part of development (like budgeting for food in actions against hunger);

- (iii) Making disaster risk reduction a routine part of development planning and resource allocation; and
- (iv) Incorporating disaster risks based on risk assessment and allocating resources to address them in national and sectoral development plans, programmes and budgets.

In summary, mainstreaming disaster risk reduction involves institutionalizing the culture and practice of disaster risk reduction within regional, subregional and national mechanisms for planning and implementing sustainable development programmes and initiatives.

A framework for analysis of mainstreaming

The fundamental starting point for mainstreaming disaster risk reduction is to understand the nature of hazards and their risk factors, along with the increasing effects of climate change.

The very basis of disaster risk management activities lies in being able to continuously identify, monitor and assess current and possible future hazards and vulnerabilities and to evaluate their potential adverse effects, and the various opportunities each represent for possible modification, reduction and prevention through various techniques with different relative costs and benefits, and then to manage those risks in a sustained manner or mitigate their possible adverse consequences (UNISDR, 2005).

Mainstreaming thus requires understanding of risk elements (hazards, risk, vulnerabilities and resilience), and the implications of climate change. These need to be considered as an integral part of planning, implementation, monitoring and evaluation of development policies and programmes at global, regional/subregional, national and community levels, and in planned development activities in all thematic areas and sectors.

Examples of efforts at mainstreaming in Mozambique and the Philippines (Benson, 2009) suggest that mainstreaming is primarily a governance issue. The State must acknowledge disaster risk as a key development challenge and make conscious and sustained efforts to build national and community resilience. The importance of governance in disaster risk reduction is illustrated in Box 6.

Box 6

Strengthening integrated risk governance

There is strong evidence that empowerment of communities and local governments to identify and manage their everyday risks and to engage in the development of their disaster risk management strategies, programmes and budgets provides a sound basis for building resilience. This, together with reinforced national institutions and inclusive coordination mechanisms at national and local levels, are key elements of risk governance.

There is growing recognition that prevention and reduction of disaster risk is a legal obligation encompassing risk assessment, the establishment of early warning systems and the right to access risk information. In this regard the progressive development and codification of international law concerning “Protection of Persons in the event of disasters” is highly relevant and welcome. Parliamentarians have a strategic role to play in strengthening integrated risk governance through legislation, oversight and allocation of

resources vis-à-vis the communities they represent. Development and financing of resilience plans were identified as a means of promoting “whole of society” approaches.

Policies for investment, improved tracking of financing for disaster risk reduction across sectors and funding streams, and the introduction of special markers in global aid reporting were recommended and the role of supreme audit institutions in providing impartial information on the legality, efficiency and effectiveness of public spending was noted. Management and technical standards, such as building codes, should be regularly updated and enforced. Accountability systems and effective rules concerning stakeholders’ responsibilities and opportunities for engagement are necessary. Ultimately, risk governance can only be rooted in a strong acceptance of personal responsibility and commitment to behavioural change. At the international level, transboundary risk management and coordination were repeatedly referred to as critical areas for cooperation including through regional intergovernmental organizations and international parliamentary networks (UNISDR, GAR 2011).

According to the UNDP Framework for Mainstreaming Drought into Development (UNDP, 2011) mainstreaming disaster risk reduction into national development frameworks, such as poverty reduction strategy papers, national development plans or national budgets, can serve two functions. Firstly, disaster risks are recognized explicitly as a critical constraint to national development, which must be integrated into sectoral policy and strategic frameworks at the macro level in order to promote risk-sensitive development. Secondly, the integration of risk management principles into such broad-based frameworks can provide the basis for mobilizing resources in the attainment of disaster risk reduction measures. Furthermore, mainstreaming of disaster risk reduction into the policy, planning and programme frameworks of disaster-vulnerable sectors – such as agriculture, livestock, water, energy, tourism and wildlife, among others – must take place in parallel to the mainstreaming into the broader national development framework so as to address disasters in an integrated and holistic manner. However, especially in a context of scarce resources and limited capacities, and taking into account different planning schedules, it may be difficult to fully integrate disaster risk reduction into all relevant sectoral frameworks at one time. It is for this reason that concentration of efforts may be required to target the sectors that will lead to maximum risk reduction or that are expected to lift key barriers to adaptive capacity-building. (UNDP, 2011)

The three strategic goals and five priority areas of the Hyogo Framework of Action, and the corresponding priorities of the Africa Regional Strategy for Disaster Risk Reduction provide the common and comprehensive framework around which to organize an assessment of the extent of mainstreaming of disaster risk reduction at regional, subregional and national levels.

The three strategic goals namely: the integration of disaster risk reduction into sustainable development policies and planning; the development and strengthening of institutions, mechanisms and capacities to build resilience to hazards; and the systematic incorporation of risk reduction approaches into the implementation of emergency, response and recovery programmes permits us to ask critical questions:

- (i) To what extent has disaster risk reduction been integrated into sustainable development policies and plans?
- (ii) What institutional mechanisms and capacities have been developed to build the resilience of nations and communities?

- (iii) How much of a paradigm shift has occurred towards disaster risk reduction, in disaster response and recovery programmes?

The answers to the first two of these questions can be arrived at through an analysis of regional and subregional frameworks and national development plans and policies frameworks. An examination of the specific institutional mechanisms and structures, including capacities and resource allocation devoted to disaster risk reduction can also provide a measure of the degree of mainstreaming efforts. These are also indications of the political priority accorded to disaster risk reduction.

The five priority areas of the Hyogo Framework for Action, with the corresponding priorities of the Africa Regional Strategy summarised in Table 9, further provide the framework for more detailed analysis of the tools for mainstreaming of disaster risk reduction, such as risk assessment and hazard mapping, early warning, education and public awareness. These also indicate areas to look for best practices.

Table 9

Priorities of the Hyogo Framework for Action and the Africa Regional Strategy for Disaster Risk Reduction

Five Priorities of Hyogo Framework for Action	Six Priorities of the Africa Regional Strategy
1. Ensure the disaster risk reduction is a national priority with a strong institutional basis for implementation	1. Increase political commitment to disaster risk reduction
2. Identify, assess and monitor disaster risks and enhance early warning	2. Improve identification and assessment of disaster risks
3. Use knowledge, innovation and education to build a culture of safety and resilience at all levels	3. Increase public awareness of disaster risk reduction and enhance knowledge management
4. Reduce the underlying risk factors (including linkage with climate change);	4. Improve governance of disaster risk reduction institutions and reduce the underlying risk factors (linkage with climate change);
5. Strengthen disaster preparedness for effective response at all levels;	5. Integrate disaster risk reduction in emergency response management;
	6. Overall coordination and monitoring of the implementation of the Strategy.

Based on these broad strategic goals and the specific thematic and sectoral requirements, mainstreaming of disaster risk reduction can be examined on both a vertical and a horizontal plane. In the vertical plane, we examined institutional and strategic commitments made at global, regional, subregional and national levels, and the resulting frameworks. These included policy regimes, legislation, strategies, plans and programmes. At the strategic level there are the overarching global, regional and subregional instruments that provide policy guidance, together with mechanisms for advocacy and mobilization of political resources

This vertical level of analysis clearly extends to relationships between national Governments and subnational levels of governments and communities. At the national level there is the added responsibility of ensuring that concrete disaster risk reduction measures and programmes are implemented to address risk and vulnerability factors. Also at the national level is the responsibility of creating an enabling environment for community-level disaster risk reduction. This involves creating the necessary political and institutional mechanisms for

community mobilization and involvement and facilitating the resources necessary for disaster risk reduction actions at the community level. In this context, it is important to examine the extent to which disaster risk reduction is decentralized.

Mainstreaming can also be examined horizontally, with regard to sectoral and thematic levels, which involves focusing on specific sectors or themes such as health, agriculture, environment, water resources management based on specific risks. Horizontal integration needs to be guided by global, regional and national frameworks. Here, policies, strategies and programmes of key sectors and the extent of understanding and mainstreaming of disaster risk reduction in strategic frameworks were examined. Vertical and horizontal mainstreaming are therefore interlinked and need to be pursued concurrently.

In addition to the five Hyogo Framework for Action priority areas, the integration of disaster risk reduction and climate change, and integration of disaster risk reduction into sustainable development are discussed as priority areas given the importance now accorded to them in the discussions on disaster risk reduction.

4.2 Approaches, methodologies, guidelines and tools used for disaster risk reduction mainstreaming

The five priority areas of the Hyogo Framework for Action largely define approaches and the main tools for mainstreaming disaster risk reduction. These can be outlined as follows:

- (i) The mainstreaming of disaster risk reduction requires that the issue be made a national priority with a strong institutional basis. Governments must assume responsibility for the welfare of their communities by providing the legal and institutional framework. Establishment of management and coordinating structures, and the development of policies and legislative frameworks provide the basis for effective mainstreaming (UNISDR, Tudor Rose, 2006),
- (ii) The need for mainstreaming should emanate from recognition of the risks that the nation and communities are exposed too. Identification and assessment of disaster risk, including monitoring and early warning of hazards represents the foundation components of any systematic approach to disaster risk reduction.
- (iii) Education, awareness-raising and capacity development are understood as core elements in successful disaster risk reduction approaches.
- (iv) Linking disaster preparedness and emergency response activities to disaster risk reduction is one major component of mainstreaming.

UNDP distinguishes between two elements of disaster risk management: prospective disaster risk management and compensatory disaster risk management (UNDP, 2004). Prospective disaster risk management should be integrated into sustainable development planning and development programmes and projects should be reviewed for their potential to reduce or aggravate vulnerabilities and hazards. Compensatory disaster risk management (disaster preparedness and response) stands alongside development planning, focusing on ameliorating existing vulnerabilities and reducing the effects of natural disasters that has accumulated through past or lack of past development processes. Compensatory policy is

necessary to reduce existing risks, but prospective policy is required for medium to long-term disaster risk reduction.

Using this framework, this section will attempt to identify the main approaches and tools used for mainstreaming disaster risk reduction. Many of these tools address the various components of disaster risk reduction and the priority areas of the HFA.

4.2.1 Synopsis of selected approaches, methodologies, guidelines and tools used for disaster risk reduction mainstreaming

Overview

There are a variety of tools, methodologies and approaches used in mainstreaming of disaster risk reduction at regional subregional and national levels. The use of these tools and approaches cover all five priorities of the Hyogo Framework for Action, various sectors and programme and project levels. Some of main tools used are the following:

- (i) Hazard and vulnerability assessment
- (ii) Vulnerability and capacity analysis
- (iii) Capacity development
- (iv) Analysis of disaster loss (Post Disaster Needs Assessment and other tools)
- (v) Political advocacy and disaster risk reduction champions.
- (vi) Participatory assessment methodologies
- (vii) Guidelines for disaster risk reduction mainstreaming
- (viii) Monitoring and evaluation – through project design, logical frameworks, and project appraisals

There also a range of tools and approaches used for mainstreaming of disaster risk reduction at programme and project levels. Although these are important tools, which are discussed in more detail in the subregional and national studies, and will not receive detailed consideration in this report. These include the Disaster Risk Management Cycle and Project Management Cycle, logical frameworks, construction design and building standards, community action planning, sustainable livelihood approaches, social impact assessments and environment impact assessments. A number of these tools are also used for mainstreaming disaster risk reduction at the community level.

The following provides brief descriptions and information on the use of selected tools, approaches and methodologies for disaster risk reduction mainstreaming.

Hazard mapping and risk assessment

Hazard mapping and risk assessment is a critical tool for mainstreaming disaster risk reduction. Indeed, the development of a reliable, strong body of evidence on hazard mapping, physical exposure and disaster risks at the national and community levels was identified as an essential first step in mainstreaming of disaster risk reduction in the Philippines (Benson, 2009). Hazard mapping and risk assessment act as advocacy tools to establish the case for proactive disaster risk management and for the need to develop appropriately risk-sensitive development policies and initiatives.

Although this tool does not feature prominently in the regional and subregional studies, a few examples can be cited. In Zambia, mainstreaming of drought disaster risk reduction in the agricultural sector resulted from recognition in the National Disaster Management Policy of the driving forces and underlying causes of vulnerability to disasters, which were considered as entry points for mainstreaming of drought into agricultural policy (UNDP, 2011). In Togo, hazard mapping for flooding is considered an important tool, with existing maps only covering the risk of wildfires and the risk of flood in two administrative regions, namely the Maritime Region and the Savannah.

At the subregional level, the IGAD Hazard Map and Atlas serves as another good example. The IGAD Regional Multi-Hazards and Associated Vulnerability Atlas is an effort to integrate the disaster risk management approach more fully into policy documents and national development plans and to strengthen specialized institutions. The regional and national hazard and vulnerability maps are decision-making tools both at the policy and operational levels for issues including awareness-raising, prevention, preparedness and response. For example, they provide useful information to guide decisions to relocate people from hazard-prone areas, such as low lying river basins (flood prone), hillsides (landslide prone), and other multi-hazard prone areas.

The goal is to contribute to and enhance the level of human safety of the population, whether socially, economically or environmentally, leading to a reduction of the costs of disaster-related events in Eastern Africa. The preparation of the Multi-Hazards Atlas employed the principles of ownership, participation and partnership.

The Multi-Hazard Atlas indicates the spatial distribution of hazards and vulnerabilities covering the following hazards: drought, floods, and pests. It will aid the development of a harmonized system of vulnerability and hazard mapping in each country so that comprehensive risk mapping is completed. It will help to strengthen the emerging skills in vulnerability analysis and mapping in most IGAD countries, carried out so far by the Kenya Red Cross in Kenya and OXFAM-GB in Uganda.

Hazard mapping and risk assessment is a primary tool which informs the use of other tools and must therefore be used in conjunction with other tools such as capacity-building, advocacy, public awareness and education programmes, and other initiatives.

A review of progress in implementation in Hyogo Framework for Action by UNISDR concluded that there is increased capacity for risk identification and assessment in some countries, enabling comprehensive multi-hazard risk assessment and the operation of effective early warning systems. Progress in this area has been attributed in part to strong linkages (coordinated at subregional level) with regional specialized institutions for climate change and risk management, such as the IGAD Climate Prediction and Applications Centre in Eastern Africa and the Horn of Africa, the SADC Climate Services Centre in Southern Africa and Africa Centre of Meteorological Application for Development in West Africa. The main challenge in hazard mapping and risk assessment is the limited data availability and failure to take full advantage of resources offered for climate risk management at the subregional level. There is also a need to strengthen the capacity of the specialized institutions for climate information to enhance preparedness planning and early warning for disasters (UNISDR, 2013).

The Integrated Food Security Phase Classification

The Integrated Food Security Phase Classification is a risk assessment and vulnerability analysis tool. It is a global, multi-partner, innovative initiative to facilitate decision-making by providing improved food security analysis. The tool is a set of protocols (i.e. tools and procedures) for classifying the severity and nature of food insecurity. It integrates food security, nutrition and livelihood information into a clear statement about the nature and severity of food insecurity and implications for response. It incorporates a meta-analysis approach drawing on evidence-based analysis that includes a broad range of data sets and stakeholders.

This global initiative is governed and strategically guided by eleven major United Nations agencies, international NGOs and regional intergovernmental bodies: Action Contre la Faim (ACF), CARE International, the Permanent Inter-State Committee on Drought Control in the Sahel (CILSS), the Joint Research Centre of the European Commission, the Food and Agriculture Organization of the United Nations (FAO), the Famine Early Warning Systems Network (FEWSNET), Global Food Security Cluster, Oxfam GB, Save the Children (United Kingdom and United States of America), Integration System of Central America/Regional Food Security and Nutrition Programme for Central America and the United Nations World Food Programme (WFP).

The tool is currently used in 23 countries around the world, and demand is increasing. Box 7 describes its implementation in Africa.

Box 7

Implementation of the Integrated Food Security Phase Classification in Africa

Implementation of the Integrated Food Security Phase Classification in East and Central Africa

Countries in East and Central Africa are leading in the implementation of the Integrated Food Security Phase Classification worldwide. The tool was originally developed in 2004 in Somalia by the Food Security and Nutrition Analysis Unit and, based on its successful use in decision-making, it spread to neighbouring countries. Today, ten countries perform acute analysis two to four times a year: Burundi, Central African Republic, Democratic Republic of the Congo, Djibouti, Kenya, Somalia, South Sudan, the Sudan, Uganda and United Republic of Tanzania.

The initiative in the region is guided by a multi-agency Regional Steering Committee embedded in the regional Food Security and Nutrition Working Group, and chaired by IGAD, who will also soon be representing the region in the Integrated Food Security Phase Classification Global Steering Committee.

Integrated Food Security Phase Classification activities in countries are led by multi-partner Technical Working Groups, chaired by Governments, and supported by regional technical coordinators.

Integrated Food Security Phase Classification implementation in Southern Africa

The Integrated Food Security Phase Classification initiative in Southern Africa is guided and implemented through the SADC Regional Vulnerability Assessment Committee. The Committee provides technical coordination and support to SADC member States to help strengthen country food security information systems, and support regional monitoring. The Integrated Food Security Phase Classification uses the well-established system of National Vulnerability Assessment Committees that are linked to and supported by the SADC Committee. At the regional level, the multi-partner Integrated Food Security Phase Classification Technical Working Group of the Regional Vulnerability Assessment Committee meets regularly, providing technical direction, oversight and support to national vulnerability assessment committees on initiative. The Integrated Food Security Phase Classification Regional Coordinator sits within the SADC Regional Assessments and Analyses Programme, in Gaborone, Botswana.

Integrated Food Security Phase Classification implementation in West Africa

The Integrated Food Security Phase Classification in West Africa supports the technical development and implementation of the Harmonized Framework for the Analysis and Identification of Areas at Risk and Vulnerable Groups in the Sahel, more commonly referred to as the Cadre Harmonisé. Since the early 2000s, the Permanent Interstate Committee for Drought Control in the Sahel (CILSS) has been engaged in the development and testing of the Cadre Harmonisé. Similarly to the Integrated Food Security Phase Classification, the Cadre Harmonisé aims to inform decision-makers and guide action and responses within the region. Both schemes are multi-partner initiatives, and regional members of the initiative participate in the Cadre Harmonisé process, including FAO, WFP, FEWS NET, Oxfam GB, ACF, Save the Children, and the Joint Research Centre of the European Commission. The Cadre Harmonisé is currently implemented in 12 countries: Burkina Faso, Cabo Verde, Chad, Côte d'Ivoire, Gambia, Ghana, Guinea, Mali, Mauritania, the Niger, Senegal and Togo.

The Integrated Food Security Phase Classification, however, has been lacking engagement with policy and programming decision-makers, who can effectively impact change using Integrated Food Security Phase Classification. Within the Integrated Food Security Phase Classification Global Strategic Programme (2014-2016), addressing this weakness and bridging this gap is a priority area of focus. There are three specific activities that have been identified in that regard, namely a baseline impact study, the development of a strategic engagement plan to reach decision-makers, and the implementation of this plan at the global, regional and country level.

Source: Integrated Food Security Phase Classification Regional Coordinator for Southern Africa (April 2014)

Training and capacity-building

Capacity-building is probably the most pervasive approach used for mainstreaming disaster risk reduction across the African continent. Most policies and strategies at the regional and subregional levels place high priority on training and capacity-building. Capacity-building involves the convening of workshops, integration of disaster risk reduction curriculum in education curricula at various levels, and professional disaster risk reduction

programmes at the higher education level. Many regional, subregional and national forums inevitably focus on capacity-building issues.

At the regional level, the African Union has supported capacity-building in regional economic communities for the establishment and development of subregional platforms, through the convening of meetings and forums and the provision of technical capacity for development of terms of reference for such platforms. SADC and the EAC have benefited from these capacity-building initiatives. The Africa Union Commission also holds training and awareness-raising workshops to increase awareness among journalists and the media of disaster risk reduction issues.

The ECOWAS subregional report notes that capacity-building is used as a tool to educate and create knowledge in order to improve both human and institutional capacities with regard to the relevance of disaster risk reduction and the need to mainstream it into the various sectors of the economy at the subregional and national levels. This is achieved through the incorporation of disaster risk reduction into basic education curriculum and the establishment of postgraduate programmes on disaster risk reduction and development issues in universities in Ghana and Nigeria. As already documented, universities across the region have developed postgraduate training courses in a disaster risk reduction. A notable example is the PeriPeri Consortium, coordinated from Stellenbosch University in South Africa, comprising ten universities drawn from across the African region.

Guidelines for mainstreaming

To address gaps in practical tools for mainstreaming, a number of organizations and institutions have developed tools and guidelines to help organizations to mainstream disaster risk reduction. Most of these target development agencies, but can be of use to Governments, local authorities and NGOs, where the will and commitment for mainstreaming exists. A number of these guidelines are analysed briefly below and detailed summaries provided in the Annex 3. These include:

- (i) United Nations Development Group, Integrating Disaster Risk Reduction into Climate Change Adaptation and United Nations Development Assistance Framework (UNDAF): A Guide for United Nations Country Teams: The UNDG Guidelines provide step-by-step advice, including links to resources, on how to integrate DRR into the process of CCA/UNDAF preparation, formulation, and monitoring and evaluation. It focuses on disasters caused by vulnerability to natural hazards rather than those related to conflict or civil unrest. Because of the close relationship between climate change and disaster risk and the fact that DRR is an essential element of climate change adaptation, the guidance note is also helpful to United Nations Country Teams (UNCTs) wishing to address climate change impacts in their analysis and future plans. The logical step by step approach beginning with risk and hazard analysis and links between disasters and development make the guidelines of application to the wider development community when undertaking comprehensive development assessment and planning programme. From the examples of mainstreaming of DRR in the UNDAF in many of the countries reviewed in the country and subregional studies in Western and Southern Africa, it would seem that the guidelines have received wide application. However it requires commitment, dedication and discipline in application.

- (ii) UNISDR, Words into Action, Guidelines for Implementing the Hyogo Framework, 2007: The Guide was designed to provide advice on useful strategies for implementing the Hyogo Framework for Action to help states to assess where they stand in the implementation process. The guide builds on existing experience and structure, to identify possible gaps and useful next steps to take towards mainstreaming of disaster risk reduction. The guiding principles distil important elements of disaster risk reduction and provide lampposts for programme planning. The process orientation of the guidelines should make it useful to government operatives at national and local levels who may have minimum knowledge and experience in planning and implementation of disaster risk reduction programmes. While the Guide's target audience is national governments and their subsidiary local governments, it may be of interest to other social sectors such as civil society and community based organizations, the private sector, academia, international and regional organizations, and others working to reduce disaster risk reduction.
- (iii) African Union/UNISDR, Guidelines for mainstreaming risk assessment in development: The Guidelines aim to help make disaster risk reduction and assessment a routine part of development planning and resource allocation, by instilling the culture of applying disaster risk assessment as an analytical and decision-making framework at all levels of society. The Guidelines are based on seven (7) key principles for mainstreaming disaster risk reduction in development, which are linked to the five (5) priority areas of action of the Hyogo Framework of Action. The Guidelines covers generic issues to consider in mainstreaming disaster risk reduction in development, it does not touch on specific analytical methods for assessing risks from various natural hazards. This maybe a major weakness since risk and hazard assessment is a highly technical process, which requires specific tools and processes. Although the guidelines have been around for a decade there little evidence that it has been widely used. In any case use of specific guidelines is often acknowledged even when utilized for specific programming.
- (iv) ProVention Consortium: Tools for Mainstreaming Disaster Risk Reduction: Guidance Notes for Development Organizations: The ProVention Tools for Mainstreaming Disaster Risk Reduction include a series of 14 guidance notes for use by development organisations in adapting programming, project appraisal and evaluation tools to mainstream disaster risk reduction into development work in hazard-prone countries. The guidelines provide short practical briefs which cover series of useful subjects, approaches and tools such as collecting and using information on natural hazards and tools such vulnerability and capacity analysis project cycle management, economic analysis, social impact assessment; construction design, building standards and site selection and budget support among others. The ProVention guidelines are quite comprehensive, providing a range of methodologies and tools to address various elements from macro analysis to microanalysis economic analysis and project cycle management. The practical approach has applicability beyond development organizations and should appeal to various levels of government programming and project design and implementation as well as private sector and community based organizations.

- (v) **Tearfund: Mainstreaming Disaster Risk Reduction:** a tool for development organization; The guideline offers a practical tool to help development organisations mainstream disaster risk reduction into their relief and development planning and programming. It addresses a perceived gap by donors and other organisations of the need for practical guides on how to mainstream risk reduction. The document identifies six key areas considered crucial to the process of mainstreaming with performance targets and indicators, which cover six key areas of an organisations' work to help them assess, measure and monitor their progress with mainstreaming. These can be used as 'templates' for measuring mainstreaming and adjusted as necessary to suit the specific conditions that prevail within any organisation. Although targeting largely development agencies, the Tearfund tool can benefit national and local governments. It is particularly useful for mainstreaming disaster risk reduction at project level.
- (vi) **Mainstreaming Disaster Risk Reduction into National and Sectoral Development Process:** Training Course of the Regional Consultative Committee on Disaster Management (RCC) developed under the RCC Program on Mainstreaming Disaster Risk Reduction into Development in Asia: The handbook was developed by the Asian Disaster Preparedness Centre (ADPC). It is the result of a collaborative, multi-stakeholder effort drawing upon the knowledge and experience of many organizations and individuals across Asia and the Pacific. It integrates the most up-to-date strategies and methods of integrating disaster risk management (DRM) into the development process, as it is practiced in Asia and the Pacific, with inputs from the broad range of experts. The series portrays what the disaster risk management (DRM) practitioner can contribute to a selection of government-led processes in order to strengthen disaster resilience and foster sustainable, inclusive development across Asia and the Pacific. It thus provides practical guidance to the DRM practitioner on both strategic and practical options for operational implementation of DRM within a selection of development processes and tools. Because it draws on practical experiences of a specific area, the handbook has great applicability within the Asia and Pacific context, but would need to be adapted for the African situation.

Advocacy and public awareness programmes

Like capacity-building, advocacy and raising public awareness are critical tools for mainstreaming disaster risk reduction, as identified in Priority 3 of the Hyogo Framework for Action. At the regional and subregional levels advocacy and awareness-raising are institutionalized into disaster risk reduction strategies and action plans. Head of State Summits, Ministerial Conferences and meeting of platforms and experts at regional and subregional levels are the mains forums raising awareness of disaster risk reduction and mobilizing political support for implementation of programmes

In ECOWAS, disaster risk reduction advocacy and public awareness-raising tools were deployed in the implementation of the Programme of Action for the Implementation of the ECOWAS Policy for Disaster Risk Reduction; policies on environment and agriculture; the Regional Strategic Plan; and the African Monitoring of the Environment for Sustainable Development initiative. Various expert advocacy conferences/meetings and Summits of Heads of State have been held since 2006 to raise awareness and engender commitment on

mainstreaming disaster risk reduction into national development agendas. Similar forums are also regular occurrences in other subregions.

At the country level, advocacy and public education and awareness-raising are the main tools used to create awareness of disasters and to popularise the priorities of the Hyogo Framework for Action and create understanding of the need to mainstream and implement these elements into the various sectors of the national development agenda.

Environmental impact assessment

This tool is deployed in different spheres of development activities, such as infrastructure, environment, agriculture and regional development to identify, assess the extent of the impact of proposed or ongoing projects on the environment. This is integrated into the decision-making process and conceptual design of projects and plans, with the view to ensuring that they do not create or aggravate existing risks. The main challenge with the tool is that recommendations and findings are often ignored in project implementation or not properly enforced, with consequences for the environment. In Kampala, Uganda, for example, according to national newspaper reports city authorities are now demolishing building and structures that had been constructed in the watershed and prohibited areas.

Post Disaster Needs Assessment

The Post Disaster Needs Assessment is a post disaster event tool used to assess the impact of a specific disaster at national levels or in a specific geographical region.

The Government of Nigeria, in collaboration with the European Union, World Bank and the United Nations, used the tool to assess the impact of the devastating 2012 flood in Nigeria, which affected more than 7.7 million people in 33 states, destroyed over 618,000 houses, killed more than 363 people, destroyed a significant amount of national infrastructure, and disrupted socioeconomic and livelihood activities in general. The Post Disaster Needs Assessment in Nigeria covers fifteen sectors of the national economy namely: housing; agriculture; transport; education; energy; macro-economy; gender; trade and investment; health; water, sanitation and hygiene; hydrometeorology; employment and livelihood; environment; disaster risk management; and telecommunications.

Similarly, other ECOWAS member States, such as Benin, Burkina Faso, Senegal and Togo, with the support of the World Bank Global Facility for Disaster Reduction and Recovery (GFDRRR) and the international community, employed the Post Disaster Needs Assessment as a tool for scientific analysis of the impact of floods in 2009 and 2010 in those countries. In IGAD and the EAC, Post Disaster Needs Assessments have been conducted in Ethiopia, Kenya and Uganda, with the support of GFDRRR, to analyse the impact of droughts.

The Post Disaster Needs Assessment is a powerful tool for advocacy and for generating political commitment to invest in disaster risk reduction, as it provides a solid and rigorous body of evidence of the human, social, and economic impact of disasters.

Vulnerability Capacity Analysis/ Hazard, Vulnerability and Capacity Assessment

The Vulnerability Capacity Analysis/Hazard, Vulnerability and Capacity Assessment is a comprehensive assessment of hazard risks, the vulnerability situation and institutional capacity, the outcome of which is used as a tool to support decision making on disaster risk management mitigation. The National Emergency Management Agency of Nigeria, in collaboration with UNICEF and other stakeholders embarked on a Vulnerability Capacity Analysis in the states of Adamawa, Benué, Akwa Ibom, Imo, Lagos and Kaduna and the Federal Capital Territory between 2010 and 2011.

In Southern Africa, this process is undertaken through the Regional Vulnerability Assessment Committee, which works closely with and through the national vulnerability assessment committees of member States.

There are several versions of the Hazard, Vulnerability and Capacity Assessment, which include, but are not limited to, the following: the Participatory Assessment of Disaster Risk, the Participatory Vulnerability and Capacity Assessment and the Community Owned Vulnerability and Capacity Assessment. The participatory tools tend to help vulnerable communities identify their risks to different hazards after carrying out comprehensive hazard assessment, disaster impact analysis, and vulnerability and capacity assessment. Communities that have gone through a thorough participatory process are likely to feel empowered to engage in risk reduction activities with knowledge.

National/subregional platforms on disaster risk reduction

Platforms are mechanisms for coordination and policy guidance on disaster risk reduction that are multisectoral and interdisciplinary in nature, with public, private and civil society participation involving all concerned entities within a country. They are the foremost multi-stakeholder institutional approach recommended by the Hyogo Framework for Action where in the different actors bring their experiences and resources to address common problems, for the good of all. While they are themselves institutional tools for mainstreaming, national platforms employ various other tools and strategies like advocacy, training and capacity-building, and public awareness-raising and education in the pursuit of its agenda. The African Union has promoted and provided support for the establishment and strengthening of subregional platforms to enhance mainstreaming of disaster risk reduction.

The ECOWAS Commission had given appropriate training and capacity-building support for ECOWAS member States to establish and strengthen their national platforms as a useful approach/tool to mainstream and implement disaster risk reduction in the respective countries. SADC, EAC and IGAD also have these coordination mechanisms. While they are primarily mechanisms for information sharing and providing advisory services for mainstreaming and operational aspects of disaster risk reduction, in certain institutional contexts, national platforms can make substantial decisions.

In Nigeria, for example the National Platform is the foremost approach used in mainstreaming disaster risk reduction into development plans in Nigeria, including the use of thematic platforms in sectors such as gender, environment and agriculture, due to the broad-based nature of disaster risk reduction issues brought to the table for discussion and the interest from various sectors of the economy. At these meetings far-reaching decisions are taken and implemented across the board. For example, the flood early warning system for Nigeria was developed at this forum. In addition, national platforms in Ghana and Uganda

have often been quoted as best practices. Box 8 is an illustration of benefits of coordination and decentralization in mainstreaming disaster reduction-related interventions.

Box 8

Coordination and decentralization as an approach to mainstreaming drought in the Niger

The Coordination Committee established several technical committees tasked with advising the main committee on a wide range of specialist areas. The representation of civil society groups has been an integral element of the committee and its technical composition. The entry point for the implementation of policies at all levels is the complex and multisectoral fight against desertification, given the environmental conditions of the country. At the same time, the Government has emphasized, through the establishment of the Coordination Committee and its multidisciplinary outlook and integration of the three essential policy strategies, the interlinking nature of the fight against desertification and rural development and poverty reduction efforts. This approach lends itself to successfully developing disaster risk management and climate risk management strategies.

A Government report further stresses the important participation of women at all levels. In fact, it is recognized that women hold a major responsibility for natural resource management and a special office for women has been established under the Office of the President. Recognizing the importance of local knowledge and the participation of all stakeholders in natural resource management programmes is stressed throughout the same report. Projects are being designed to promote the wide collection and use of best practices and lessons learned. The different stakeholder groups will be organized into networks that will also encourage feedback to the national Coordination Committee.

While challenges for the Committee and its work remain, in particular in terms of the need for adequate financial resources and capacity development in management areas, a process of decentralization has been embarked upon. According to the report, regional environmental councils for sustainable development will become operational in the near future and will, through their extension operations, reach out to local communities for capacity development and coordination of activities.

Source: UNDP, 2011

Partnerships and collaboration

Disaster risk reduction is a complex and multifaceted issue, and requires a holistic and multisectoral approach to planning and implementation. It needs to draw from the knowledge, expertise and resources of a range of actors and stakeholders. Partnerships and collaboration between many stakeholders is thus an essential tool in disaster risk reduction mainstreaming across all levels. At regional and subregional levels, collaboration with a range of institutions and stakeholders is essential for mainstreaming. At regional, subregional and national levels, disaster risk management units rely on human and material support from other related multilateral development agencies, NGOs and even community-based organizations to fulfil their mandates and build resilience in their respective regional countries. None of the units is expected to have all that it requires to address the hazard risks and vulnerability challenges in their countries, hence the need to collaborate.

The African Union and regional economic communities have partnerships and collaborate with a wide range of agencies and organizations in the implementation of disaster risk reduction programmes. UNISDR, UNDP, UNEP, and other United Nations agencies such as WFP, FAO and WHO, the GFDRR, the African Development Bank, the European Union and other multilateral donors, all operate at regional, subregional and national levels, to provide funding, technical capacity and other assistance for the implementation of disaster risk reduction programmes.

At the national level, in Nigeria the National Emergency Management Agency, development partners, NGOs and other government agencies are actively involved in coordination of and collaboration on disaster risk reduction activities in order to effectively achieve disaster risk reduction mainstreaming in Nigeria. This process facilitates human and material resource mobilization across a wide spectrum of potential resource bases. The National Emergency Management Agency is collaborating with the National Space Research and Development Agency on the acquisition of satellite images for hazards risk assessment and post disaster damage assessment. The National Emergency Management Agency is also collaborating with the Nigerian Meteorological Agency on the dissemination of weather forecasts and flood mitigation activities. The Agency is also partnering with six Nigerian Universities for the training of disaster risk management personnel. During the 2012 flood disaster in Nigeria, the World Bank and UNDP helped to coordinate the Post Disaster Needs Assessment exercise. The Red Cross is also an active partner in disaster management in Nigeria.

Other tools and approaches

There are other tools and approaches for disaster risk reduction mainstreaming that were identified in the subregional and national studies. These include community participation, gender mainstreaming, multi-hazard risk assessment and land use planning.

The Nigerian Meteorological Agency maintains a network of weather stations in Nigeria, which provide data for weather predictions and early warning information for disasters. It uses the WMO standards for data collection and analyses, with the purpose of standardizing its methodology to make it comparable with those of other countries.

The Agency used the Economic Commission of Latin American Countries (ECLAC) Damage and Loss Assessment methodology to assess damage resulting from the 2012 floods in Nigeria. The World Bank provided assistance in this regard. The aim of the adoption of ECLAC methodology was to ensure that the assessment process conforms to international standards. Results obtained from the assessment were used in developing a recovery framework for the affected sectors. The recovery plan was integrated into the 2014 national budget and the medium-term national development plan commonly called VISION 2020. UNDP also developed a methodology for a Human Recovery Needs Assessment and this was used, together with data on damage and losses to produce the Post Disaster Needs Assessment.

The Federal Ministry of Water Resources and the National Hydrological Service Agency use standard hydrological tools in their data collection and presentation. The network of river gauges provides useful information for developing early warnings on river stage and the probability of rivers flooding. This has worked successfully in reducing river flooding in some areas.

Techniques such as remote sensing and a geographic information system are also commonly used in hazard risk assessment in the country. The National Emergency Management Agency and the Centres for Disaster Risk Management in a number of universities have geographic information system laboratories with sufficient capabilities for to perform relevant analyses. Most of these laboratories have appropriate software for data extraction and analyses.

As part of the implementation of disaster risk reduction measures, Togo has developed tools for planning and programming that are operating at the national level.

A number of other tools for mainstreaming disaster risk reduction have been identified in SADC. The disaster risk management cycle is used together with the project cycle management to complement efforts to adapt appraisal tools to take hazard-related concerns into account, while logical and results-based frameworks are used in programme and project design to consider hazard-related issues. Safer house construction guidelines, as well as construction design and building standards are tools for the construction of houses and infrastructure that are resilient to hydrometeorological, geophysical and technological hazards. Economic analysis, sustainable livelihood approaches and social impact assessments are all risk assessment tools for systematically examining disaster risks and their economic, social and development impacts and informing decisions on options for reducing vulnerability

Just like the tools there are a variety of approaches used for mainstreaming across sectors. For example in Malawi and Mozambique, as documented in the SADC subregional report, the approaches include the use of disaster risk reduction governance structures, coordinating mechanisms such as the national platforms, disaster risk reduction strategies and master plans to guide mainstreaming across various levels of government and sectors as well as the integration of disaster risk reduction and community vulnerability assessment into planning and budgeting processes, contingency planning and community-based participatory processes.

The experience of Zambia in mainstreaming drought risk reduction into its national agricultural policy is a good example of the basic approaches in mainstreaming as well the specific tools that can be used at sectoral level. Zambia adopted a National Disaster Management Policy in order to undertake a coordinated approach to prevention and mitigation efforts. The policy focused on the underlying causes of vulnerability to disasters, which were considered as entry points for the mainstreaming of drought issues into agricultural policy. The Fifth National Development Plan (2006-2010) integrated various elements of disaster risk management, focusing on impacts on the agriculture sector, which is seen as an engine of economic growth. Zambia used a four-pronged approach to mainstreaming, namely:

- (i) Based on the vulnerability analysis and drought risks concerns, disaster risk management concepts are integrated into the visions, goals and objectives of the sectoral policy and strategic frameworks, for example, growth in crop productivity and production in the agriculture sector.
- (ii) Disaster risk management principles are incorporated into the sectoral planning process in the form of targets, milestones, outcomes, and budgets, for example, setting the diversification of agricultural crop varieties as a priority action point.

- (iii) Specific disaster risk management options are included at the programme and project levels, for example, drought-tolerant crops promoted and distributed at the local level and extension services provided.
- (iv) Participatory processes involving provincial and district level structures are utilized.

The Zambian example provides a good model that can be adopted for sectoral mainstreaming of disaster risk reduction.

4.3 Extent of mainstreaming of disaster risk reduction into development frameworks at regional, subregional and national levels

4.3.1 Mainstreaming of disaster risk reduction into development frameworks at the regional level

Disaster risk reduction frameworks have been developed at the regional level. This section provides an assessment of the extent to which disaster risk reduction priorities identified at the regional level have been integrated in the other regional or sectoral development strategies, plans and programmes.

(a) *African Agenda 2063*

Africa Agenda 2063, a plan for Africa's structural transformation, was agreed upon on the occasion of the African Union Golden Jubilee in May 2013. The 50th Anniversary Solemn Declaration includes a pledge to make progress in eight priority areas of the continental agenda and these will be integrated into regional and national development plans. The priority areas are

- (i) African identity and renaissance;
- (ii) The struggle against colonialism and the right to self-determination of people still under colonial rule;
- (iii) The integration agenda;
- (iv) The agenda for social and economic development;
- (v) Peace and security;
- (vi) Democratic governance;
- (vii) Determining Africa's destiny;
- (viii) Africa's place in the world.

Agenda 2063 is anchored in and driven by the aspirations of the African people, which were embedded through the consultative preparatory process. The consultative process involved various stakeholders, including young people, women, civil society organizations, the Diaspora, African think tanks and research institutions, government planners, and the private sector. Moreover, ideas gained from continent-wide sector ministerial meetings and meetings with the regional economic communities were also taken into account.

It embraces and reinforces the Vision of the African Union, and also endorses the 12 continental-level priorities of the African Union contained in that body's Constitutive Act, which form the basis for the development of continental frameworks such as the PIDA, CAADP, the African Mining Vision, the African Governance Architecture and the African Water Vision, amongst others.

Among the disaster risks and challenges Agenda 2063 identifies are the prevalence and severity of extreme events such as heat and cold waves, dust storms, severe winds, floods, droughts, and greater rainfall variability and patterns. These are bound to distort traditional crop cycles, and are likely to diminish agricultural and industrial raw materials productivity and export earnings, and the safety and well-being of African citizens.

To attain the goals of high standards of living, quality of life and well-being for all citizens, as well as environmentally sustainable and climate resilient economies and communities, Agenda 2063 identifies the following strategies, which integrate disaster risk reduction:

- (i) End poverty and eliminate hunger and malnutrition;
- (ii) Put in place climate-resilient low carbon production systems and significantly minimize vulnerability and natural disasters;
- (iii) Mainstream/integrate climate resilience into planning, budgeting and monitoring of development outcomes and processes;
- (iv) Conduct climate change research, including detection and attribution;
- (v) Promote/support climate-smart agriculture including those under CAADP;
- (vi) Promote climate-resilient practices in integrated coastal and marine ecosystem management systems;
- (vii) Promote/support disaster risk reduction, emergency response and climate-resilient policies and programmes;
- (viii) Domesticating the United Nations Framework Convention on Climate Change

Agenda 2063 recognizes that climate risks and natural disasters will continue to adversely impact Africa's development for many years to come and that Africa still has limited capacity for disaster preparedness and prevention, resulting in natural disasters continuing to leave a trail of destruction. The Agenda therefore calls for these threats and challenges to be mitigated and turned into opportunities through the launch of collective strategies and effective public policy responses and actions to counter the most disruptive economic, social and environmental challenges facing Africa.

Agenda 2063 identifies two strategic dimensions for overcoming risks and addressing weaknesses. These are:

- (i) Drawing on the resilience found in African societies, such as the strong capacity demonstrated by farming communities to weather risks and create livelihoods in the most difficult environments, through enabling communities to govern their affairs, manage disputes and protect the vulnerable and ensuring a vital role African women in forging peace and rebuilding livelihoods;

- (ii) Building interlocking partnerships and institutions at community, member State, regional and continental levels to help absorb these disruptive changes and reduce associated community and State weaknesses. Building the capacities of regional economic communities to find regional solutions to address drivers of fragility is critical.

All these elements are disaster risk reduction priority actions contained in the Hyogo Framework for Action and the Africa Regional Strategy for Disaster Risk Reduction and provide an integrated framework for addressing climate change and disaster risk reduction. Agenda 2063 therefore fully integrates disaster risk reduction into its 50-year vision for Africa.

(b) *African Union Commission Strategic Plan 2014-2017:* The overall goal of the strategic plan is to “Accelerate progress towards an integrated, prosperous and inclusive Africa, at peace with itself, playing a dynamic role in the continental and global arena, effectively driven by an accountable, efficient and responsive Commission”

Over the Strategic Plan period, the Commission plans to accelerate progress toward Africa’s vision, with a people-centred union as its operating principle, and to enhance relations with the regional economic communities and other organs, and with strategic and other partners.

The Strategic Plan focuses on eight key priorities, which have been translated into concrete and yearly targets in a number of areas that impact directly on the welfare, lives and livelihoods of Africans in all works of life. One of these priorities is to expand agricultural production, developing the agro-processing and businesses sectors, increase market access and attain Africa’s collective food self-sufficiency and nutrition through promotion of smallholder agriculture and sound environment and natural resource management, including climate change. Within this priority area are specific outputs focusing on disaster risk reduction and disaster risk management, namely:

- (i) Promote/facilitate sustainable management of the environment and natural resources, including water, land, biodiversity, etc;
- (ii) Put in place measures to facilitate progress in the implementation of the Africa Climate Change Agenda, including Green Economy;
- (iii) Facilitate the implementation of the Great Green Wall for the Sahara and Sahel Initiative;
- (iv) Facilitate the realization of the Africa Water Vision 2020;
- (v) Facilitate the implementation of the Africa Regional Strategy on Disaster Risk Reduction;
- (vi) Facilitate the implementation of the programme on Monitoring of the Environment for Sustainable Development;
- (vii) Facilitate member States capacity strengthening through implementation of the Multilateral Environmental Agreements.

While the Strategic Plan acknowledges the importance of disaster risk reduction and climate change at a policy level, disaster risk reduction is unlikely to receive much priority in programme implementation, unless issues of capacity and limited allocation of resources are

resolved. There are, however, opportunities to incorporate disaster risk activities into existing climate change activities, which have designated funding.

(c) ***Africa's post-2015 Agenda:*** The African Union Commission Strategic Plan 2014-2017 contains a brief statement on Africa's post-2015 agenda. It identifies some of the gaps in the Millennium Development Goals and suggests priorities for the post-2015 agenda. The Agenda includes prioritization of disaster risk reduction and climate change under the recommended goal of promoting human development. This is quite significant, as it demonstrates the increasing understanding and internalization in Africa of the link between disaster risk reduction and sustainable development. The Outcome document adopted at the Rio+20 Conference entitled *The World We Want*, also has an entire section that endorses disaster risk reduction as an integral part of development.

(d) ***The New Partnership for Africa's Development (NEPAD):*** This initiative is incorporated into the structures of the African Union through the NEPAD Planning and Coordinating Agency and is a Programme of the African Union that seeks to eradicate poverty, place African countries, both individually and collectively, on a path of sustainable growth and development, build the capacity of Africa to participate actively in the world economy and become a body politic, and accelerate the empowerment of women. NEPAD was formally adopted as an integrated socio-economic development framework for Africa by the 37th Ordinary Session of the Assembly of the then Organization of African Unity held in Lusaka, Zambia, in July 2001. NEPAD was one of the key partners in the development of the Africa Regional Strategy for Disaster Risk Reduction and is a member of the African Working Group on Disaster Risk Reduction.

The NEPAD Planning and Coordinating Agency Business Plan 2010-2014 and Strategic Direction: 2010-2013 acknowledge as major issues of concern widespread land degradation and desertification, loss of biodiversity, deforestation and loss of arable and grazing land, declining soil productivity, pollution and depletion of freshwater resources, and deteriorating air quality, all of which have wider implications on food security, sustainable natural resources management, human health, and efforts to eradicate poverty. It is noted that these will be aggravated climate change.

The activities of the NEPAD Planning and Coordinating Agency therefore aim to strengthen the ability of countries to integrate climate change responses into national development processes and provide capacity-building and technical support in the areas of adaptation, mitigation, technology, and finance, as well as their linkages. With regard to natural resources management, the NEPAD Planning and Coordinating Agency will promote adaptive management, participatory decision-making and sustainable financing through funds for ecosystem services. It will also place emphasis on the management of forestry resources with specific focus on the Congo Basin and Great Green Wall of the Sahara and the Sahel Initiative. All these are disaster risk reduction measures. While most of the analysis addresses some of the drivers of disasters, there appears to be no explicit reference to disaster risk reduction in the Agency's business plan.

One of the core functions of Agency is the strengthening of partnerships and international cooperation towards the attainment of Africa's development goals and agenda. Promoting Africa's development and integration requires highly effective partnerships at various levels, from local to international. The Agency's contribution to developing, strengthening and nurturing African partnerships with African regional and subregional organizations and institutions and external partnerships with United Nations Agencies, the

donor community and through South-South cooperation frameworks should contribute significantly towards strengthening the mainstreaming and implementation of disaster risk reduction as one of the outcomes.

NEPAD's wide ranging mandate for coordinating African development means that disaster risk reduction mainstreaming should be among its central concerns.

A clear indication that NEPAD has placed disaster risk reduction as a priority is the guidelines developed by the Agency for mainstreaming disaster risk reduction into CAADP as detailed below. NEPAD is therefore in a strategic position to spearhead the mainstreaming of disaster risk reduction into all regional sectors.

(e) ***The African Peer Review Mechanism:*** This is a self-monitoring mechanism voluntarily acceded to by member States of the African Union with the aim of fostering the adoption of policies, standards and practices that will lead to political stability, high economic growth, sustainable development and accelerated regional and economic integration. The mechanism permits performance of governments and States to be assessed on a range of issues with emphasis on accountability, namely: democracy and political governance; economic governance and management; corporate governance; and socioeconomic development. It is not clear to what extent disaster risk reduction is assessed under any of these components, particularly political and economic governance and socioeconomic development. So far 29 of the 54 African countries have joined and 13 have been voluntarily assessed. As a monitoring tool the Mechanism provides an opportunity for assessment of mainstreaming of disaster risk reduction as a cross-cutting theme using specific indicators or the tools for monitoring domestication of the Hyogo Framework for Action. Integrating disaster risk reduction criteria and indicators in African Peer Review Mechanism process would contribute to assessing resilience of African countries to disasters. This is particularly important as climate change is set to escalate hydrometeorological disasters. In the European Union and Association of South Asian Nations (ASEAN), the African Peer Review Mechanism is used as a tool to assess and enforce harmonization of frameworks and standards. It has been suggested that it would serve as a useful tool for harmonization of policies in the context of the goal of regional integration.

The mechanism would be more effective if common standards and frameworks were being implemented across the continent. This can only be accomplished if policies and frameworks are harmonized and are consistent with regional policies and frameworks.

(f) ***African Union/NEPAD Comprehensive Africa Agriculture Development Programme (CAADP):*** This is considered to be Africa's flagship programme. The overall goal of CAADP is to eliminate hunger and reduce poverty through agriculture and improvement of food security and nutrition, and increase the incomes in Africa's largely farming-based economies. Under the Programme, African Governments have committed to increase public investment in agriculture to a minimum of 10 per cent of their national budgets and to raise agricultural productivity by at least 6 per cent annually.

The Programme is organized around four key pillars, namely: land and water management, market access, food supply and hunger; and agricultural research. Pillar 3 of the CAADP Framework for African Food Security endorses the three strategic goals and five priority actions of the Hyogo Framework for Action as strategic resources to address challenges related to risk management including emergency management, early warning and prevention of food crises. A fifth pillar, sometimes referred to as CAADP 2, was added on the

recommendation of the African Union Heads of State in July 2003 to address the development of livestock, fisheries, and forestry resources and provides an entry point for CAADP to deal directly with constraints to livestock economies that include disaster risk.

To ensure that disaster risk reduction measures are an integral part of programme implementation, NEPAD has initiated a series of policy briefs to disseminate knowledge around key policy instruments that can be used to mainstream integrated risk management strategies into national and regional agriculture and food security investments plans (NEPAD Planning and Coordinating Agency, 2011). The objective is to analyse different price and disaster risk management tools as well as the challenges of their application in Africa, and document country experiences to guide decision-makers in the mitigation of the negative effects of production, market and price volatility. Disaster risk management tools address risks in the area of financial markets, insurance, technology and farm safety nets. The policy brief is an excellent model that should be adopted to guide mainstreaming of risk reduction into all regional development programmes.

(g) ***The Programme for Infrastructure Development in Africa (PIDA)***: This is a continental framework initiated by the African Union Commission, the NEPAD Planning and Coordinating Agency and the African Development Bank that was adopted in January 2012 by the African Union Summit. Assuming 6.2 per cent annual GDP growth for Africa between 2010 and 2040. It projects Africa's infrastructure needs, which are contained in Table 10, below.

Table 10
Africa's projected infrastructure needs

Indicators	PIDA 2040 (2020 FOR ICT)
Modern highways	37,300 km
Modern railways	30,200 km
Port Added ton capacity	1.3 billion tons
Hydroelectric power generation	61,099 MW
Interconnecting power lines	16,500 km
New water storage capacity	20,101 hm ³
ICT International Broadband Capacity	6 Terabytes

The PIDA Priority Action Plan, to be implemented during the period 2012-2020, is made up of 51 programmes and projects at an investment cost of \$68 billion, or about \$7.5 billion annually. However, there is no mention of disaster risk management issues, even though growth in all areas of infrastructure will increase disaster risks in Africa. While disaster risk issues have been acknowledged during discussions, the expectations are that risk reduction issues will be taken on board at the projects level through environmental impact assessments. Nevertheless, it would be useful to have broad guidelines, similar to those developed by NEPAD for CAADP, to ensure that disaster risk reduction issues are addressed systematically across all relevant sectors during implementation of these enormous infrastructure programmes.

(h) African Union Accelerated Industrial Development in Africa (AIDA) programme: The programme provides a continental framework for addressing the root causes of Africa's low industrial development and highlights a number of critical priorities that need to be addressed at national, regional, continental, and international levels to promote the coherent industrial development of Africa. These include:

- (i) Policies on product and export diversification, natural resources management and development;
- (ii) Infrastructure development;
- (iii) Human capital development and sustainability, innovation, science and technology;
- (iv) Development of standards and compliance;
- (v) Development of legal, institutional and regulatory frameworks;
- (vi) Resource mobilization for industrial development.

There is no discussion or acknowledgement of disaster risk reduction issues. The United Nations Global Assessment Report 2013 provides a detailed analysis of how investment determines risk and of the impact of disasters on business and industry. These include loss of business lifeline when infrastructure is hit and the danger of a single disaster wiping out all or large parts of business capital. The report makes a compelling case for the integration of disaster risk reduction into investment decisions (UNISDR, 2013). Considering the increased risk of economic losses due to disasters resulting from increased investment in industry, it is suggested that the programme be revised to integrate disaster risk reduction considerations into the priorities of Africa's industrial development programme.

(i) Africa Climate Change Strategy: Africa is the most vulnerable continent to climate variability and change (IPCC, 2007, 2011 and 2012). Climate change will lead to changes in extreme weather and climate events such as drought, floods, sea level rise, storm surges, among many other hazards. African countries have faced and will continue to confront a range of risks such as sea level rises, and extreme weather events, including stifling heat, intense rains, and powerful storm surges. Others have faced and will continue to face risks of more challenging conditions for food agriculture, water, health, fisheries, infrastructure, transportation, and other livelihoods.

The strategy seeks to enhance the adaptive capacities and resilience of member States and regional economic communities, with a view to minimizing their vulnerability; help them to pursue a low carbon growth path as dictated by principles of the Green Economy, sustainable development, and poverty reduction; and orient governance, knowledge systems, planning, and national regional/international structures to treat climate change as a development imperative.

The guiding principles take into account the multidisciplinary and cross-cutting nature of climate change, both in terms of disciplines and sectors. It also recognizes that most aspects of this strategy will only be realized through partnerships and close collaboration between a number of sectors, institutions and stakeholders at global, regional and national levels.

Africa's adaptation priorities are intended to achieve sustainable development, alleviate poverty and attain the Millennium Development Goals, with emphasis on helping the most vulnerable groups.

Among the three broad areas identified under adaptation is disaster risk reduction and risk management, including early warning, preparedness and contingency planning. In this context, the goal is to promote and support disaster risk reduction, emergency response and recovery for climate resilience. Specific actions are to support the implementation of the Africa Regional Strategy for Disaster Risk Reduction and its Programme of Action in line with the Hyogo Framework for Action; support the implementation of decisions adopted by the African Ministerial Conferences on Disaster Risk Reduction; and promote and support applied research and studies around disaster risk reduction and climate change integration and mainstreaming; Other key activities are to support capacity development and increase awareness of and commitment to disaster risk reduction and climate change integration and mainstreaming to facilitate climate resilience and risk-informed planning processes; raise awareness of and address climate risk and loss and damage associated with climate-related hazards; and support the generation, provision, and application of climate and weather information for disaster risk reduction and climate change adaptation purposes.

The Strategy thus endorses and integrates disaster risk reduction as a central pillar in addressing climate change. There are therefore significant synergies between the Africa Regional Strategy for Disaster Risk Reduction and the Africa Climate Change Strategy.

(j) ***Africa Mining Vision:*** Adopted in February 2009, Africa’s Mining Vision is the “Transparent, equitable and optimal exploitation of mineral resources to underpin broad-based sustainable growth and socioeconomic development.”

This shared vision comprises, among other things, a knowledge-driven African mining sector that catalyses and contributes to the broad-based growth and development of, and is fully integrated into, a single African market through:

- (i) A sustainable and well-governed mining sector that effectively garners and deploys resource rents and that is safe, healthy, gender & ethnically inclusive, environmentally friendly, socially responsible and appreciated by surrounding communities;
- (ii) A mining sector that is a major player in vibrant and competitive national, continental and international capital and commodity markets;
- (iii) Ensuring compliance of industry players with the highest standards of corporate governance, and environmental, social and material stewardship; harnessing the potential of public-private partnerships; and promoting regional integration and harmonization to facilitate factor flows.

It could be argued that, by contributing to economic growth and overall poverty reduction, the Mining Vision will help tackle the main drivers of vulnerability in Africa. Similarly, commitment to a sector that is safe, healthy, gender and ethnically inclusive, environmentally friendly, socially responsible and appreciated by surrounding communities and that maintains the highest standards of corporate governance, and environmental, social and material stewardship would presumably promote safety standards and minimization of mine disasters. Generally, the Africa Mining Vision largely deals with economic and financial aspects, with no reference to disaster risks of the mining sector. It cannot therefore be said to mainstream disaster risk reduction.

Disaster risk reduction therefore needs to be explicitly mainstreamed into the Vision, given that the mining sector is prone to disasters globally. In Africa, there have been regular reports of mini disasters, particularly in South Africa. With the increasing discovery of oil and other minerals across the continent, the sector is set to grow in sub-Saharan Africa. This will inevitably increase mining-related and technological disasters. Mainstreaming of disaster risk reduction in regional mining frameworks as guidelines thus becomes an imperative.

(k) *Africa Water Vision 2025:* The aim of the Africa Water Vision 2025 is to achieve the equitable and sustainable use of water for socioeconomic development.

The crucial role of water in accomplishing the needed socioeconomic development goals is widely recognized. Water is clearly a major factor in socioeconomic recovery and development in Africa. Water is a precious natural resource, vital for life, development and the environment. It can be a matter of life and death, depending on how it occurs and how it is managed. The Africa Water Vision 2025 has been developed firstly as an instrument for socioeconomic development in Africa but also as an integral part of a worldwide initiative to develop a World Water Vision.

A bottom-up, participatory approach was used to generate massive public awareness of the risks of inaction, and to encourage innovative and lateral thinking on problems related to water resources. The ultimate goal has been to generate the political commitment needed to turn this increased public awareness into effective action for the benefit of all present and future generations.

The Framework for Action defines the road map for achieving the Vision and defines four broad categories, namely strengthening governance of water resources; improving water wisdom; meeting urgent water needs; and strengthening the financial base for the desired water future.

The objectives of the Vision include ensuring an adequate supply of water for urban areas, agricultural needs, energy and hydropower production, industry, tourism and transportation development; and managing climate variability and change, including drought, and floods. The environmental factors that are drivers of the vision are climate variability (spatial and temporal) which lead drought, desertification, floods and other natural disasters, and environmental degradation from domestic, industrial and agricultural waste. A third factor is a failure to allocate adequate water resources to sustain life-supporting ecosystems, both terrestrial and aquatic.

The Vision acknowledges that addressing these factors at the national and international level is absolutely critical for Africa' sustainable social and economic development but does not explicitly spell out how these challenges will be addressed. However, given that water-related disasters cause the most human and economic losses in Africa, the lack of explicit integration of disaster risk reduction in the Water Vision and its implementation mechanisms, which has already been done by SADC, is a shortcoming that demands urgent remedial action.

(l) *African Union Policy Framework for Pastoralism in Africa:* This has two overall objectives, namely to secure and protect the lives, livelihoods and rights of pastoral peoples and ensure continent-wide commitment to the political, social and economic development of pastoral communities and pastoral areas, and reinforce the contribution of pastoral livestock to national, regional and continent-wide economies.

The Policy Framework acknowledges that the policy and institutional environment in African nations have a major influence on processes that can reduce or undermine the vulnerability and resilience of pastoral livelihoods. It calls for policies and institutions that promote the rights of pastoralists by acknowledging their existence, acknowledging and addressing their vulnerabilities and developing strategies to develop their coping capacities and build their resilience. These are clear disaster risk reduction principles ingrained in the framework

(m) ***African Union Social Policy Framework for Africa:*** This is one of the few regional frameworks that integrate risk reduction. Among the key objectives of the policy are:

- (i) Strengthen environmental surveillance and rapid response systems, early warning systems and disaster prevention capabilities;
- (ii) Mainstream climate change and disaster risk reduction issues into national development planning processes;
- (iii) Increase intergovernmental cross-border cooperation on policies, which address social issues and social problems such as poverty and social exclusion. Such policies should promote regional social justice and equity, social solidarity and social integration (for example, the establishment of regional social funds or regional disaster mitigation funds, and the development of regional regulations for labour markets and utilities and health and education services.

These are key disaster risk reduction concepts and tools for addressing resilience.

(n) ***2050 Africa's Integrated Maritime Strategy:*** This strategy provides a broad framework for the protection and sustainable exploitation of Africa's maritime domain and a tool to address Africa's maritime challenges for sustainable development and competitiveness. The Strategy aims to foster more wealth creation from Africa's oceans, seas and inland waterways by developing a thriving maritime economy and realizing the full potential of sea-based activities in an environmentally sustainable manner.

Among the threats and vulnerabilities identified in the marine sector are natural disasters, marine environmental degradation, and climate change. Consequently, the strategic objectives include to minimize environmental degradation; protect populations, including Africa's maritime domain heritage, assets and critical infrastructure, from maritime pollution and dumping of toxic and nuclear waste; and improve integrated coastal zone/area management in Africa to fix damage and expedite recovery from catastrophic events

The Strategy integrates disaster risk reduction through its acknowledgement of the African Regional Strategy for Disaster Risk Reduction and the United Nations International Strategy for Disaster Reduction as important frameworks for addressing the challenges of managing Africa's marine issues.

(o) ***Framework for Strategic Action of Africa's Maritime Domain (2050 Africa's Integrated Maritime Strategy):*** The Framework commits the African Union Commission to encourage and support the implementation of the integrated, multisectoral and multidisciplinary Maritime Disaster Management Strategy for Africa. Such measures are aimed at preventing or reducing the risks of disasters; lessening the severity or consequences of disasters; improving emergency preparedness and ensuring a rapid and effective response

to disasters; and ensuring post-disaster recovery and rehabilitation. This will be done in collaboration with relevant stakeholders such as WMO, IOC-UNESCO and IMO. Consideration will be given to early warning sensors and centres and the African Union Commission will conduct regular, inclusive, multi-agency maritime disaster management exercises, including search and rescue.

In summary, with exception of the agriculture, marine and social sectors, disaster risk reduction is not mainstreamed in many of the major, regional sectoral development programmes. The agriculture sector clearly was aware of existing disaster risk reduction frameworks and their importance for the agriculture sector and food security. The integration of disaster risk reduction in the social sector seems to have resulted from understanding and the requirements of institutional mandates, while the maritime sector demonstrates the need to address the risks and vulnerabilities in the sector.

The main reason for lack of mainstreaming would seem to be the lack of awareness of the disaster risk reduction frameworks, such as the Hyogo Framework for Action and the Africa Regional Strategy for Disaster Risk Reduction and its Programme of Action. Thus, in August 2013, the African Union Commission, with the support of UNDP, organized a disaster risk reduction awareness-raising workshop for African Union Commission departments and institutions. While similar programmes should be undertaken on regular basis, it is hoped that the initial efforts will lead to the review of some of these frameworks with a view to mainstreaming disaster risk reduction.

4.3.2 Mainstreaming at the subregional level

Most of the subregional sectoral frameworks in the agriculture, health, environment and water sectors integrate disaster risk reduction elements routinely as part of their departmental or sectoral mandates, although these may not be consciously linked to disaster risk reduction frameworks. In ECOWAS and the EAC, environmental frameworks address disaster risk reduction and climate change. The EAC and SADC have frameworks for addressing climate change that integrate disaster risk reduction issues.

An encouraging development is the development of subregional frameworks that address continental priorities. For example the SADC and ECOWAS agricultural policies are seen as instruments for implementation of CAADP, while infrastructure development frameworks in both regions have also been developed within the PIDA framework.

Below is a brief discussion on mainstreaming of disaster risk reduction in individual subregions.

(a) Mainstreaming of disaster risk reduction in ECOWAS subregion

Disaster risk reduction is mainstreamed at the highest institutional level in ECOWAS. The ECOWAS founding treaty, which was revised in 1993, incorporates articles relevant to the strengthening of disaster management institutions, the establishment of hazard early warning systems, and the provision of food aid, within the ECOWAS poverty-reduction, security and sustainable development agenda. The ECOWAS disaster risk management and humanitarian action mechanisms derive their mandate from the treaty. The ECOWAS Treaty clearly identifies disaster risk reduction as an important priority and a key objective to be pursued by all ECOWAS institutions. It can be concluded that disaster risk reduction is considered an important priority. The extent to which ECOWAS institutions and sectors have

responded to this directive and incorporated disaster risk reduction dimensions in their policies and strategies is examined below.

There are also guiding documents, such as ECOWAS Vision 2020, Protocol on Democracy and Good Governance and the ECOWAS Community Development Programme, which provide mandates and guidance for good governance. Although they could serve to create an enabling environment for mainstreaming of disaster risk reduction, many of these strategic frameworks do not explicitly address issues of disaster risk reduction. Nevertheless, many of them explicitly identify the poverty and vulnerabilities of ECOWAS communities as key challenges that need to be addressed. As these documents acknowledge and address some of the main drivers of disasters, such as poverty, they address elements of disaster risk reduction, even though this may not necessarily constitute mainstreaming.

ECOWAS has common sectoral protocols, policies and strategies related to development that are relevant to disaster risk management and humanitarian action. These cover sectors such as agriculture, environment, industry, energy, science and technology, and health. Protocols relating to customs, immigration and movement of people and goods, and those relating to mechanisms for conflict management and prevention are also relevant to disaster risk management and humanitarian action. Some examples are highlighted below.

The ECOWAS Environmental Policy: The overall objective of the policy is to reverse environmental degradation and depletion of natural resources, ameliorate the quality of the living environment and conserve biological diversity. The conceptual backdrop of the Policy carefully takes into consideration the sustainable management of environmental resources.

The objectives and strategies employed in the policy contain some elements of disaster risk reduction, which are in harmony with three objective of the Africa Regional Strategy for Disaster Risk Reduction (enhance knowledge management for disaster risk reduction; increase public awareness of disaster risk reduction; and improve governance of disaster risk reduction institutions), and Priorities 1,2,3 and 4 of the Hyogo Framework for Action.

The strategic aims of the Policy, include strengthening environmental governance (setting up regional mechanisms) and building capacities; promoting sustainable management of resources for the improvement of the subregional economy in an environmentally friendly manner, preventing environmental pollution and nuisance, urban waste and controlling transboundary movement of hazardous waste/products; and promoting environmental information, education and communication.

The Environmental Policy integrates attributes/elements that are in line with all the priorities of the Hyogo Framework for Action, except Priority 5. In this regard:

- (i) The policy is designed to strengthen environmental governance and build capacities in the subregion through the setting up of a high level standing mechanism for environmental policies;
- (ii) It prescribes the establishment of a regional observatory centre for environmental monitoring and assessment with a view to promoting the monitoring of environmental change and prevention of risks;
- (iii) The policy seeks to promote environmental information, education and communication for a healthy environment within the subregion, by strengthening information and communication activities on environmental

management and to promote a subregional programme on environmental education, with its subsequent integration into school curricula;

- (iv) In ensuring sustainable management of resources, the environmental policy aspires to enhance the conservation and sustainable development of forests, fauna and grazing lands; combat land degradation and drought, and the improve the sustainable management of coastal, island and marine ecosystems;
- (v) It provides for appropriate town and country planning policies to manage environmental pollution, nuisance, and hazardous and urban waste.

On the one hand, the Policy integrates disaster risk reduction, as many of the elements and objectives are consistent with elements of disaster risk reduction. On the other hand, however, the policy articulates the mandate of the environment sector and what its objectives are. It is not necessarily responding to disaster risk reduction issues. It is not expressed in disaster risk reduction terminology, nor is there any evidence that the policy takes into account disaster risk reduction frameworks.

ECOWAS Agricultural Policy (ECOWAP/CAADP): The general objective of this policy is to “contribute in a sustainable manner to satisfying the food needs of the population, promote economic and social development while reducing poverty in member States as well as addressing inequalities between territories, areas, and countries” (ECOWAS, 2005). The policy has seven specific objectives, namely to achieve food security for the rural and urban populations; reduce food dependency in a perspective of food sovereignty; integrate producers into markets; and develop human capacities and create jobs that guarantee remunerative incomes to improve the living conditions of rural populations as well as the delivery of services in rural areas; ensure sustainable intensification of production systems, while preserving natural resources and biodiversity; reduce the vulnerability of West African economies by limiting factors that lead to regional instability and insecurity; and ensure adoption of appropriate funding mechanisms.

The Policy contains features, which are consistent with all priorities of the Hyogo Framework for Action, and thus integrates disaster risk reduction considerations. These features include the following:

- (i) The policy promotes institution building through the adoption of gender-sensitive approaches, support for the formulation of agricultural and rural policies and strategies and long-term funding for agriculture, which ultimately improves food security, human capacity and awareness and builds community resilience;
- (ii) It strives to prevent and manage food crises and other natural disasters through the establishment of early warning systems, crisis management systems and capacity-building for the monitoring and evaluation of agricultural development projects in the subregion;
- (iii) The policy aims to improve food security, develop human capacities of rural populations and sustain intensification of production systems while preserving natural resources and biodiversity. Issues of water and resource management are tackled through integrated water resource management and sustainable management of natural resources, including forestry and fishery resources;

- (iv) It also promotes information sharing and communication among stakeholders and encourages the formulation of mechanisms for disaster-related insurance and compensation;
- (v) The policy takes into consideration the development of appropriate response and recovery measures for crisis-affected areas.

Similarly to the ECOWAS Environmental Policy, the ECOWAS Agricultural Policy has many features that are consistent with disaster risk reduction elements, but that does not constitute mainstreaming as it is defined. However, within a developmental context, effective implementation of the ECOWAS Agricultural Policy will contribute significantly towards reducing vulnerability and building resilience to disasters.

ECOWAS Regional Strategic Plan 2011-2015: The following strategic priorities and goals of the plan contain disaster risk reduction elements that are in line with the Priorities 1 and 2 of the Hyogo Framework for Action.

- (i) The regional plan advocates for good governance, justice and an upgrade of conflict prevention and management efforts, together with the development of a conflict resolution mechanism/framework.
- (ii) It reinforces institutional capacity by enhancing the technical and analytical skills of staff in order to create appropriate human capacity for development and also to ensure collaboration, coordination and synergy among member States.
- (iii) The plan sees the promotion of human development as an instrument of poverty reduction and seeks to develop strategies and tools to give impetus to regional agricultural development and ensure the sustainability of the environmental bases of production.

There is no evidence that the strategy takes on board disaster risk reduction issues. A clear statement on disaster risk reduction at a strategic level would provide guidance and direction for all sectors in the implementation of their programmes. The absence of explicit integration of disaster risk reduction in the ECOWAS Strategy would seem to indicate the overall status of mainstreaming of disaster risk reduction in the ECOWAS subregion.

African Monitoring of the Environment for Sustainable Development (AMESD) initiative: This project was a follow up to the Preparation for the Use of Meteosat Second Generation in Africa project (2002-2006), which assisted in developing the capacities of the national meteorological services. The AMESD project covered the period 2008-2013 and was funded by the Ninth European Development Fund. The overall purpose of AMESD was to improve decision-making processes in the fields of environmental management in Africa; increase the information management capacity of African regional and national institutions mandated for environment-related sectors; and facilitate access to earth observation technologies.

ECOWAS was one of the five sub-Saharan Africa regional economic communities participating in the project. Each regional economic community has chosen thematic areas to deal with an environmental concern that is particular to its region. The ECOWAS thematic area was water management for cropland and rangeland management.

This project contained elements from all priorities of the Hyogo Framework for Action:

- (i) The AMESD project was set up to develop and strengthen the capacities of the national meteorological services and to enhance information sharing in the field of environmental risk management among subregional and national institutions through access to earth observation technologies
- (ii) It provided a platform for the monitoring, development and dissemination of early warnings, thus improving decision-making processes with regard to disaster risk reduction and sustainable development;
- (iii) It sought to increase the information management capacity of African regional and national institutions mandated for environment-related sectors and facilitate access to earth observation technologies;
- (iv) The project enabled information sharing, communication and the training of individuals and stakeholders. It promoted research, innovation and development of improved methods for predictive multi-risk assessments to substantially reduce the underlying risk factors in the ECOWAS subregion and among member States;
- (v) As the AMESD project aimed to improve monitoring and dissemination of early warnings on environment matters with the support of earth observation technologies, it contributed to strengthening disaster preparedness and facilitating effective responses in the subregion and among member States.

The AMESD project is clearly important in building capacity for environmental management, and can therefore contribute to disaster risk reduction. However an explicit acknowledgement of disaster risk reduction issues seems missing although, again many of the programmes would contribute to disaster risk reduction.

(b) *Mainstreaming disaster risk reduction in SADC subregion*

The findings of the SADC subregional assessment was that while there is increasing disaster risk reduction knowledge and awareness, especially in the Organ on Defence, Politics and Security where the Disaster Risk Reduction Unit is housed, mainstreaming of disaster risk reduction across SADC sectors remains limited.

- (i) The SADC Regional Indicative Strategic Development Plan identifies disasters as one of the major underlying causes of poverty and vulnerability in the SADC subregion, but does not address disaster risk reduction as a key priority action area. However, disaster risk reduction elements are fully articulated in the Strategic Indicative Plan for the Organ on Defence, Politics and Security.
- (ii) The subregional agriculture policy refers to the SADC disaster risk reduction policy but does not give details on how this relates to the overall policy. In the rest of the SADC protocols, policies and strategies on environment, tourism, gender and development, science and technology, forestry, fisheries, water, health, education, energy and mining sectors, disaster risk reduction is merely mentioned or implicitly included. This is attributed to the fact that most of these frameworks were developed in the 1990s when disaster risk reduction

was not global priority. Only the SADC protocol on health has substantive disaster risk reduction interventions.

- (iii) While there is recognition in some sectors, such as water, that disaster risk reduction is a multi-sector responsibility that should be spread across directorates and sectors, many other sectors still maintain the silo approach, where disaster risk reduction is viewed as solely a mandate of the Organ on Defence, Politics and Security Cooperation.
- (iv) The Climate Change Adaptation Strategy in SADC: The Strategy for the Water Sector, the Regional Indicative Strategic Development Plan and the Agriculture Regional Policy implicitly use disaster risk reduction tools such as the vulnerability and capacity assessment and the disaster cycle as part of their institutional mandates, without necessarily articulating explicitly their disaster risk reduction agenda.
- (v) With respect to disaster risk reduction funding, which is critical for mainstreaming, the SADC regional report corroborates the conclusion of the Humanitarian Trends in Southern Africa study (RIASCO study) that most of the funding for disaster risk reduction programmes comes from international partners, raising questions about sustainability of these programmes (RIASCO, 2013).
- (vi) SADC Regional Water Policy (2005) integrates disaster risk reduction. It provides for security from water-related disasters and people's protection from floods and droughts. Member States have united to commit themselves to the protection of human life, common property and the environment against the effects of water-related natural and human-induced disasters. It requires the SADC Secretariat and shared watercourse institutions to facilitate and coordinate the management of natural disasters at a shared watercourse and regional level. Additionally, it calls on the SADC Secretariat, member States and shared watercourse institutions to improve the region's capacity in predicting water-related disasters associated with floods and droughts through coherent and effective regional and watercourse management strategies. The policy recognizes that management of natural disasters and emergency situations requires the development and implementation of integrated and coherent regional and watercourse level management plans and procedures. It states that regional disaster management planning shall be aligned with other sector disaster management plans and involve consultation with relevant stakeholders. Each member State has an obligation to notify and share information with affected watercourse States in the event of actual or pending water-related disasters.

The overall conclusion is that, while disaster risk reduction elements are implicit in many sectors such as agriculture, health, water and environment, these reflect more the institutional mandates of these sectors. Explicit mainstreaming of disaster risk reduction based on awareness and understanding disaster risk reduction concepts and frameworks seems limited in the SADC region.

(c) ***Mainstreaming disaster risk reduction in the EAC Subregion***

The EAC has a number of strategic frameworks that explicitly mainstream disaster risk reduction.

- (i) Chapter 19, Article 112 (f) and (m) of the Treaty establishing EAC calls for cooperation in the management of environmental and disaster preparedness management, protection and mitigation measures especially for the control of natural and man-made disasters. Under this provision, the Partner States are required to develop and adopt an integrated approach to address the effects of climate change in the subregion. In addition, Articles 23 and 24 of the Protocol on Environment and Natural Resource Management also provide for joint actions to address climate change in the subregion. Section XI of the EAC climate change policy seeks to establish a subregional disaster management mechanism the aim of which would be to identify potential disasters; establish disaster management centres; and develop efficient and rapid disaster response teams to ensure timely responses.
- (ii) EAC Development Strategy (2011/12 - 2015/16): The Strategy implements the vision and objectives of the EAC as articulated in Article 5 of the EAC Treaty. It identifies eight subregional development priorities. Disaster risk management is identified as strategic intervention under the priority objectives of promoting peace and security and sustainable natural resource management, ensuring environmental conservation, and mitigating the effects of climate change across the subregion.
- (iii) Specific frameworks and interventions that integrate disaster risk reduction are the Protocol on Environment and Natural Resource Management and the EAC Climate Change Policy, Strategy and Master Plan, together with draft comprehensive development strategies for arid and semi-arid areas and the promotion and protection of indigenous/traditional knowledge associated with biological resources and ecosystems. Other efforts include the strengthening of national plans, programmes and legislation for forest management; inventories, monitoring, and information sharing on trade on illegally harvested forest products; and the development of capacity for integrated environmental assessment, education and reporting with particular focus on climate change and sea level rise, depletion of fresh water aquifers, coral reef bleaching and coastal erosion; and supporting joint research in dedicated centres of excellence. Additional interventions include the development and implementation of a Conflict Prevention, Management and Resolution Framework; coordination and strengthening of disaster management centres; harmonization of management practices for internally displaced persons and refugees across the region; and development and implementation of a multi-regional maritime safety and security initiative.
- (iv) The following provide the basis for disaster risk reduction strategies and actions.
 - EAC Protocol on Environment and Natural Resource Management provides the basis for EAC disaster risk reduction and climate change policies. It covers a range of themes and sectoral issues relevant to disaster risk management, already discussed extensively under section 3.

- The EAC Climate Change Policy aims to contribute to sustainable development through harmonized and coordinated regional strategies, programmes and actions to address climate change. Its main objective is to guide Partner States and other stakeholders on the implementation of collective measures to address climate change in the region while ensuring sustainable social and economic development.

Among the challenges targeted by the policy are: the availability of adequate information, early warning systems and technological capacity; high poverty levels and high vulnerability of population, impacting on ability to adapt to extreme weather events and climate variability and man-made and natural disasters; and the need develop adequate disaster management responses, and the adaptive capacity and resilience of the East African subregion to the negative impacts of climate change. Specifically, policy prioritizes disaster reduction and risk management, including early warning, preparedness, emergency response and post-disaster recovery for adaptation to climate change.

The main objectives in terms of climate change adaptation are to support the development and implementation of climate-related disaster risk reduction and management as an adaptation tool; support vulnerability risk mapping in all sectors including social and economic impacts of climate change; and improve early warning systems and preparedness in the subregion to avert or minimize the adverse impacts of climate change.

- (v) The Agriculture and Rural Development Strategy for the East African Community (2005-2030) identifies elements relevant to disaster risk reduction. It sees deforestation, floods and land degradation, climate and weather conditions and poverty as major challenges to agriculture and food security. Thus, the vision is to support, promote and facilitate the development of marketing of agricultural produce and products and ensure food security, poverty eradication and sustainable economic growth, all of which are objectives that will build resilience and reduce vulnerability and disaster risk.
- (vi) The EAC Strategy for Regional Peace and Security contains a provision for the establishment of common mechanisms for the management of refugees/asylum seekers in conformity with the 1951 United Nations Convention Relating to the Status of Refugees and its 1967 protocol, and 1969 Organization of African Unity Convention Governing the Specific Aspects of Refugee Problems in Africa. All EAC members are signatories of the Strategy, which provides a common framework for uniform national legislation governing refugee matters in the subregion. Individual countries are therefore expected to develop legislation related to refugees based on the strategy. To what extent countries have responded to this requirement is an issue for further study.

(d) *Disaster risk reduction mainstreaming in the IGAD subregion*

A comprehensive assessment of IGAD sectors was not possible due to lack of information. However, an indication of the extent of mainstreaming in some sectors can be gauged from EAC most of whose member States are also members of IGAD.

In summary, the EAC seems to have made the most progress in mainstreaming disaster risk reduction into its overarching and sectoral development frameworks. The strategic priority given to disaster risk management and climate change in the current EAC

Strategic Plan is particularly significant in elevating the status of mainstreaming disaster risk reduction into development sectors. In IGAD, the severe drought that affected the subregion in 2010-2011 has generated political commitment to mainstreaming drought at highest level, but it remains to be seen how these commitments will translate to policy and programme actions at the subregional and national levels.

Overall, the reflection of disaster risk reduction elements in the frameworks of sectors such as agriculture, education, environment and health in different regional economic communities demonstrates and emphasizes the cross-cutting and multisectoral nature of disaster risk reduction. In this context, awareness of disaster risk reduction frameworks and elements and their integration into sectoral frameworks would strengthen the synergies between disaster risk reduction and sectoral development programmes. This appears to have been the case in the EAC, where key sectoral documents have mainstreamed disaster risk reduction.

Creating increasing awareness and strengthening advocacy for mainstreaming disaster risk reduction is clearly the main challenge that should receive priority at subregional level.

4.3.3 Mainstreaming of disaster risk reduction at the national level

The following section provides a review of the extent of disaster risk reduction mainstreaming into some of the development frameworks in selected countries. These examples are drawn primarily from the subregional reports of ECOWAS and SADC. Most of the sectors reviewed are those that provide opportunities for reducing vulnerability and building resilience. The report does not claim to present a comprehensive picture of mainstreaming of disaster risk reduction in all sectors.

4.3.3.1 Disaster risk reduction mainstreaming into selected development frameworks in Nigeria

Revised National Policy on Environment (1999):The National Policy on Environment made provisions for the establishment of regulatory, monitoring and response agencies, namely the National Environmental Standards and Regulations Enforcement Agency, and the National Oil Spill Detection and Response Agency at the Federal level; and State Environment Protection Agencies at state-local levels to prevent, mitigate, and respond to environmental challenges such as flooding, erosion, desertification and oil pollution. The environmental policy, strategies and plans call for environmental impact assessments for major developmental projects as well as the establishment of collaborative multi-state early warning systems for hydrometeorological, geophysical, biological, social and industrial hazards between the Ministry of Environment, the Nigeria Hydrological Services Agency and the Nigeria Meteorological Agency.

The policy also provides for advocacy and the raising of public awareness to promote understanding of the essential linkages between the environment, natural resources and development. The policies and plans encourage local participation in environmental management, with legislative public hearings as part of major development activities. It also encourages the integration of environmental issues into the primary, secondary and tertiary institution curriculum to engender appropriate public awareness and promote prevention, mitigation and response at all levels, from individuals to communities.

Issues of environmental conservation, restoration and sustainability are pursued with appropriate multilateral support to preserve the environment and natural resources for the benefit of present and future generations. It also promotes the conduct of environmental emergency assessments and development of response mechanisms with needed contingency plans at the federal and state levels.

New Nigerian Agricultural Policy (2001): This agricultural policy, and related plans and strategies contain disaster risk reduction elements that promote the attainment of national, state and local priorities in terms of agricultural research, preservation and issues of food security and poverty reduction. Appropriate methods and initiatives under the Ministry of Agriculture, such as the National 'Fadama Development Projects, were put in place to improve rural infrastructure and enhance the capacity of 'fadama' users to adopt environmentally sustainable land management practices. The policy encourages participation in the mapping and development of interstate cattle and grazing routes, watering points and appropriate early warning systems in collaboration with hydrometeorological agencies.

It aspires to improve production and processing technologies, through the promotion of simple, low-cost improved irrigation technology, adoption of improved animal husbandry and development of appropriate machinery and equipment by expanding the capacity of the National Centre for Agricultural Mechanisation. The policy encourages research and development of appropriate technology for agriculture, including biotechnology, training and manpower development and establishment of appropriate structures for collection of agricultural statistics and information sharing and management.

The achievement of self-sufficiency in basic food supply and the attainment of food security, the rational utilization of agricultural resources, improved protection of agricultural land resources from drought, desert encroachment, soil erosion and flood, and the general preservation of the environment for the sustainability of agricultural production are the key objectives of the new agricultural policy. It also seeks to reduce risks and uncertainties in agriculture and enhance the security of agricultural production and investment, through the introduction of a comprehensive agricultural insurance scheme, and improve the quality of life of rural people by articulating and implementing integrated rural development programmes.

Revised National Health Policy (2004):The Policy sets to establish a comprehensive health-care system, based on primary health care that is protective, preventive, restorative and rehabilitative, to every citizen of the country within the available resources so that individuals and communities are assured of productivity and social well-being. It seeks to develop a high level of efficiency and accountability in the management of the national health system and revitalize and provide appropriate and quality human resources for health-care delivery at all levels.

The policy promotes practical, scientifically sound and socially acceptable methods and technology in the provision of health care. It also recommends prime disease surveillance, data collection, compilation and health risk assessment methodologies, and community participation to enhance health service delivery. The policy sets to achieve a gender-sensitive and responsive national health system by mainstreaming gender considerations in the implementation of all health programmes. It also encourages the development of programme on information, education and communication, which should also include specific programmes for school health services and integration of basic health education into school curriculum.

The policy strives to strengthen inter-sectoral cooperation and collaboration between different health-related Ministries, development agencies and other relevant institutions in order build resilience and reduce the underlying risk factors as much as possible. The aim of the policy is to provide effective, efficient, quality, accessible and affordable health services that will improve the health status of Nigerians and hence ensure the active prevention and control of locally endemic and epidemic diseases. It also provides an appropriate framework for preparedness and emergency response for incidences of diseases, such as cholera and meningitis.

Poverty Reduction Strategy Paper: National Economic Empowerment and Development Strategy 2005: The Strategy emphasized the strengthening of preventive and curative primary health-care services and the development of viable agricultural and sustainable economic institutions. It sets out to establish relevant regulatory agencies to enforce environmental laws, monitor industry compliance, conduct environmental audits and impact assessments, and set standards. It supports the full integration of women in national development by enhancing their capacity to participate in the economic, social, political and cultural life of the country.

The Strategy promotes health-care service delivery through a stronger emphasis on health education, disease prevention and an unhindered access to compulsory universal basic education for all citizens. It encourages the building of a culture of peace and security by establishing structures and processes that mainstream conflict prevention and resolution into national development.

It also insists on the provision of adequate water and sanitation, nutrition, clothing, shelter, basic education and health care as well as physical security and a means of livelihood. The Strategy seeks to implement an integrated rural development programme to stem the flow of migration from rural to urban areas. It recognizes the need to tackle the many other social and political factors that contribute to poverty and social exclusion. It makes provisions for safety nets to prevent people from becoming poor or poorer, protect vulnerable groups, and reduce poverty levels and inequality. At the conception stage of this policy, disaster risk reduction, with reference to the Hyogo Framework for Action, was not consciously mainstreamed even though the National Emergency Management Agency already existed.

The United Nations Development Assistance Framework (UNDAF II and III):The results matrix for UNDAF II (2009-2012) was organized around four major priorities: governance and accountability that supports transparent, equitable and effective use of resources; productivity and employment for wealth creation with a bias towards the poor and with the aim of contributing towards the growth of a private sector-led non-oil economy; social service delivery to invest in Nigeria's human capital and contribute towards a democratic dividend that reaches the poor even as it boosts current and future potential for equitable growth; and reduction of the risk of crisis and conflict to help address the challenge in the Niger Delta whilst assisting with crisis prevention, management and mitigation in other parts of the country (United Nations Nigeria, 2008). UNDAF II featured certain elements of disaster risk reduction, for example UNICEF, in collaboration with the National Emergency Management Agency embarked on capacity-building and training on emergency preparedness and Vulnerability Capacity Assessment (VCA) for the staff of the National Emergency Management Agency, state emergency management agencies, and civil society organizations. This was to address the emerging hazard risk of floods, pipeline vandalism and displacement of people due local conflict and strife.

Similarly, UN-Habitat (Nigeria) mainstreamed disaster risk reduction elements into structure plans for cities in Anambra, Nasarawa and Osun states to promote risk-sensitive planning and obtain resilient cities. In the same vein, in a bid to build the capacity of the National Emergency Management Agency to coordinate resources for efficient and effective disaster prevention, preparedness, mitigation and response in Nigeria, the National Emergency Management Agency, in collaboration with WFP, embarked on the following programmes: Rapid Food Security Assessments Training; Capacity-building Training in Humanitarian Logistics Management in Emergency Situations; Emergency Preparedness Workshop; Telecommunications Assessment Mission; and Emergency Preparedness Federal and State Capacity Assessment Mission. In addition, UNDP and the World Bank, in collaboration with the National Emergency Management Agency, conducted a Post Disaster Needs Assessment after the devastating floods of 2012.

UNDAF II, as described above, includes activities that are in line with priorities 1, 2 and 4 of the Hyogo Framework for Action. It also served as a foundation for the development of UNDAF III (2013-2017). UNDAF III consists of four result areas, namely, good governance, social capital development, equitable and sustainable economic growth, and human security and risk management. While all of these result areas feature elements of disaster risk reduction, the human security and risk management results area supports the vision of the Government of Nigeria to achieve a peaceful, secure and sustainable development path where disaster, environmental, climate and conflict risks and threats are mitigated. The specific activities and strategies that relate to disaster risk reduction in UNDAF III include the need to:

- (i) Support and strengthen the resilience of individuals and communities through support to government, community-based organizations, civil society organizations as well as other implementation partners in the result areas;
- (ii) Focus specifically on effective early warning and response to emerging signs of natural disasters, disaster risk reduction, and building coping capacities related to vulnerability to natural disasters;
- (iii) Promote the development of robust national peace architecture to help prevent or mitigate against potential violence;
- (iv) Strengthen preparedness and coordination as well as provide early warning and early action systems, inclusive of mediation and conflict management/resolution for recurring conflicts over land and natural resources. It will also build credible platforms for political dialogue and peace building initiatives at national and state levels and especially in identified conflict zones;
- (v) Focus specifically on strengthening institutions, the private sector and communities to use their natural resources efficiently. It will also encourage them to develop the capacity to engage in climate change negotiations and take action towards environmental sustainability, and promote the creation of green jobs and a sustainable green economy;
- (vi) Support sustainable urban management to enable Nigerian cities fulfil their potentials as engines of economic growth and centres of innovation for the national economy.

UNDAF III focuses essentially on all aspects of the Hyogo Framework for Action priorities, with the exception of Priority 5, which was primarily addressed in UNDAF II, suggesting a paradigm shift from a preparedness and response approach to a comprehensive disaster risk management approach within the UNDAF framework

4.3.3.2 Disaster risk reduction mainstreaming into selected development frameworks in Ghana

National Environmental Policy (2010): The Policy highlights the establishment of an effective, adequately resourced and harmonized institutional framework, centred around the Ministry of Environment, Science and Technology and the Environmental Protection Agency, with an integrated legislative system and institutional capacity development at all levels.

The policy alludes to the development of standards for environmental management systems, environmental impact management, monitoring and evaluation procedures, and reporting. It recommends the mainstreaming of environmental, social and economic impact assessments, management and practices into all existing and future irrigation projects and development programmes to ensure sustainable development.

The policy proposes the promotion of education and awareness creation on environmental issues through the integration and expansion of environmental education in the curricula at all levels of the education system. It supports the development of necessary legislation and training and provision of financial support to grassroots communities to ensure their participation in resource and environmental management. The policy document also alludes to the development of strategic environmental research, which aims to identify the social, economic and technical factors that influence resource and environmental management. It reiterates the need to support the development and improvement of existing environment-related information management systems with the use of tools such as information and communication technologies and geographic information systems.

It promotes equitable access to, and sustainable use of, the country's natural and cultural resources. The policy also heralds the conservation of the diversity of landscapes, ecosystems, habitats, biological communities, populations, species and genres throughout the country by expanding human capacity. There are also appropriate provisions for environment emergency assessment and response when there are hazard events like flooding and pollution.

Food and Agriculture Sector Development Policy II (2007): The Food and Agriculture Sector Development Policy is coordinated and implemented by the Ministry of Food and Agriculture to ensure compliance with environmental regulations and integration of environmental considerations in the development of agricultural activities. It advocates for enhanced collaboration between institutions responsible for disaster management through improved legal and policy frameworks. The Policy seeks to strengthen early warning systems and pursue the development of an effective and efficient framework for collaboration with appropriate agencies to ensure environmental monitoring, assessment and compliance. It pursues the enhancement of nutrition through the dissemination of nutrition and health information and advocacy for food fortification and increased awareness about environmental issues among all stakeholders.

The Policy sets to improve food security and emergency preparedness by targeting vulnerable groups in agriculture, enhancing their diversification opportunities, reducing risk and increasing their access to productive resources. It maintains the need to mainstream sustainable land and environmental management practices into agricultural sector planning and implementation. It also emphasizes the need to establish contingency plans and strategic stocks to support emergency preparedness to ensure access of the poor to food during disasters and to safeguard production.

Ghana Shared Growth and Development Agenda: 2010-2013: The Agenda seeks to enhance community participation in environmental governance and natural resource management and mitigating the impact of natural disasters. It emphasizes the need to increase resilience to climate change impacts by identifying and monitoring environmental changes and enhancing early warning systems.

It also calls for improved environmental and social impact assessment processes and compliance in developmental design and considerations. The strategy strives to enhance research and awareness-raising as well as the development and implementation of environmental sanitation strategies. It promotes human capacity development through education and vocational training, taking into account gender considerations. Issues pertaining to biodiversity loss, the sustainable extraction and use of mineral resources, and integrated water resource management are also addressed. In addition, enhanced productivity and livelihoods through agricultural diversification, improved land use management and access to healthcare are considered paramount in the development strategy. Particular attention is paid to the development of appropriate institutional arrangements to implement human settlement development, with a focus on land use planning, urban housing development and management, upgrading of slums, and disaster prevention.

The Agenda underscores the need to promote human resource development, productivity and employment while ensuring poverty reduction and social protection. It promotes good governance, rule of law and encourages women's participation in governance. The National Disaster Management Organisation was established as an emergency response agency to promote national development by responding to natural and human-induced emergencies in Ghana.

The United Nations Development Assistance Framework (UNDAF III and IV): The strategic objectives of UNDAF III were to improve: the accessibility of health services for the vulnerable population; access to basic education with focus on gender equity in enrolment especially among vulnerable groups; and productive capacity and sustainable livelihoods among vulnerable groups. It also seeks to strengthen the national response to HIV/AIDS; promote an effective data management information system in national development; and promote human rights, and equitable and participatory governance. These activities are in line with all priorities of the Hyogo Framework for Action with the exception of Priorities 1 and 2.

UNDAF 2012-2016, the fourth UNDAF for Ghana, encapsulates the collective results the United Nations system seeks to achieve in support of the key priorities of the Government's development agenda. The strategic focus of the UNDAF, which responds directly to central aspects of the Ghana Shared Growth and Development Agenda 2010-2013, concentrates on four thematic areas, namely, food security and nutrition; sustainable environment, energy and human settlements; human development and productive capacity for improved social services; and transparent and accountable governance.

These thematic areas contain disaster risk reduction features. Some of the activities identified in UNDAF are:

- (i) Improving the capacity of national systems and existing institutional arrangements to promote climate change mitigation and adaptation and disaster risk reduction, as defined in the Hyogo Framework for Action at all levels;
- (ii) Integrating adaptation and mitigation strategies and practices into climate-resilient development policies, plans and programmes;
- (iii) Supporting the development national policies and strategies on disaster risk reduction, with an emphasis on budget allocation to disaster-prone districts;
- (iv) Supporting the establishment of a national risk monitoring observatory for providing early warning information and for the development of a national strategy to raise public awareness on disaster risk reduction in primary and secondary schools and to improve building safety and protection of critical facilities;
- (v) Reinforcing the institutional capacities (assessment, coordination and information management) of the National Disaster Management Organisation and other Millennium Development Ambassadors for preparedness and response to man-made and natural disasters;
- (vi) Encouraging the integration of biodiversity and land management issues, with a special focus on water bodies and afforestation in policies at the national and local level.

4.3.3.3 Disaster risk reduction mainstreaming into selected development frameworks in Senegal

Environmental Policy: The Department for Studies, Planning and Monitoring, under the Ministry of Environment and Sanitation, supervises the implementation of the policy and evaluation of projects, programmes, cooperation and management of external assistance in collaboration with the Supreme Council for Natural Resources and Environment, which ensures the inclusion of environmental considerations into national development programmes. The policy seeks to develop the capacities for the collection, processing, storage and dissemination of information and monitoring of change in environmental resources.

To raise public awareness and a sense of responsibility for environmental protection, the policy encourages integration of environmental education into formal and non-formal education curricula and the development of a comprehensive communication plan to raise awareness of the Environmental Code. The policy calls for improved relations between the Ministry of Environment, the private sector, NGOs, community-based organizations and local communities in the management of the environment

The policy promotes the prevention of any form of nuisance and pollution, proper management of urban waste, and an integrated management of coastal and marine ecosystems. It provides appropriate plans to enhance environmental emergency assessment and response during emergencies like flooding.

New Agricultural Policy (1984): The Policy is focused on community participation through cooperative groups and community-based organizations. With the support of development partners, the Policy seeks to apply appropriate early warning mechanisms to prevent and mitigate emergencies in agriculture.

It also seeks to deploy mass education, advocacy and rural training to address the decline in agriculture productivity and rising food insecurity with a view to reducing poverty in the country. Its aim is to achieve food sovereignty and security through self-sufficiency in cereal production to address the reduction in production.

To promote food security and sovereignty, the Government of Senegal embarked on efficient water and land use management and replenishment of seed capital in order to promote productivity, competitiveness and sustainable development. The policy promotes the need to diversify agriculture production beyond groundnuts. It also provides for appropriate plans to enhance environmental emergency assessment and response during emergencies like flooding.

Poverty Reduction Strategy Paper: National Strategy for Economic and Social Development: SNDES 2013-2017: Senegal's poverty reduction strategy document accentuates the need to promote good sectoral governance to fast track social, economic and environmental development. It promotes the standardization of development projects and the need for assessments to ensure control over major industrial accidents. It also highlights the need for collaboration among relevant Millennium Development Ambassadors that have to do with environmental monitoring and management, and the need to establish early warning system for natural disasters.

The Strategy encourages improved human capital development through universal primary education and skills development. It set out to strengthen capacities in environmental and natural resources management through the promotion of environmental education and public enlightenment. The strategy document underlines the need to create employment opportunities through public investment in highly labour-intensive activities and the need for the private sector to play an active role in the general development of the economy and job creation. It expresses the need for improved access to energy services and the development of transportation infrastructure, with the promotion of good sectoral governance to fast track social and economic development. It also highlights the need to ensure an integrated and balanced development of the rural economy through increased agricultural productivity, a sustainable agricultural sector management system and the setting up a harmonized gender-sensitive development.

The strategy targets the eradication of extreme poverty and hunger through the promotion of food security and self-sufficiency. It is intended to contribute to economic and social development by: improving access to basic social services; protecting vulnerable groups; improving healthcare and nutritional status; enabling a better living environment and reducing environmental degradation. It recognizes the importance of mitigating the impact of climate change on the ecosystems through the preservation and management of natural resources at the local level. It also reiterates the need for peace and security through the promotion of rule of law; human rights and justice; gender equity and equality; land-use planning and local development; improved management of public finances; and increased accountability and transparency.

The Strategy stipulates the need to prevent and reduce major disaster risks by developing national and regional contingency plans and to promote the culture of disaster prevention. It also supports management of natural disasters through the establishment of a mechanism to assist and compensate disaster victims. The establishment of an emergency response fund and capacity-building for civil protection actors was considered paramount in that regard.

United Nations Development Assistance Framework: The development of the UNDAF (2007-2011) for Senegal, took into consideration Senegal's poverty reduction strategy. The three strategic areas of cooperation identified by UNDAF (2007-2011), in consultation with government agencies, civil society organizations and key development partners include: wealth creation and the fight against hunger for sustainable development; the promotion of basic social services; governance and promoting partnership for development. UNDAF (2007-2011) for Senegal contained some elements of disaster risk reduction in line with Hyogo Framework for Action Priority 4 to reduce the underlying risk in the country.

The UNDAF (2012-2016) relied heavily on the recommendations of the midterm review of the previous UNDAF (2007-2011) and the priorities of Senegal's Poverty Reduction Strategy Paper II. This led to the development of three thematic areas of focus, which inherently include elements of disaster risk reduction. The thematic areas of intervention are: creating opportunities for economic development of rural areas; improving equitable community access to rights and social services, basic social protection and sustainable development; and strengthening governance at central and local levels to ensure sustainable human development.

Activities containing elements of disaster risk reduction in the UNDAF include (2012-2016):

- (i) Improving food security and increase the nutrition status of the populace by production diversification, empowering farmers and boosting their income;
- (ii) Promoting equitable access of people and vulnerable groups to basic social services, social protection through improved education, quality health-care services and protection against violence, abuse and exploitation;
- (iii) Implementation of initiatives that relate to climate change adaptation and development of sustainable livelihoods;
- (iv) Increasing the capacity of national institutions (central, regional and local) to promote good governance and development of policies and programmes that are participatory, transparent and equitable.

4.3.3.4 Disaster risk reduction mainstreaming into selected development frameworks in Mali

National Environmental Protection Policy (1998): The Policy calls for appropriate institutional and legislative frameworks for the coordination, standardization and control of the quality of the environment, which have been created through the establishment of the Environmental Code. It seeks to establish a system for the monitoring, assessment and regulation of environmental pollution and to promote the restoration and recovery of degraded environments. The policy mandates the carrying out of environmental impact assessments as a

prerequisite for the implementation of projects and emphasizes the development, preservation and strengthening of technical and methodological advances garnered through participatory approaches over the years. It is intended to develop national capacities at all levels (national, regional and local) and to promote community participation in environmental protection. It also promotes comprehensive and multisectoral collaboration among all stakeholders by encouraging consultation with communities towards ensuring sustainable environmental protection.

The Policy supports research on desertification and environmental protection to enable the development of appropriate techniques and technologies as well as the dissemination of environmental information and good practices.

The objective of the policy is to develop and support the implementation of decentralized and participatory resource management programmes; promotion of sustainable farming systems; food security; and the sustainable management of renewable natural resources. It has a goal to prevent any form of nuisance and pollution through the creation of sewage treatment plants for decontamination of liquid effluents and for effective management of solid, gaseous, industrial and artisanal waste in major cities. Appropriate environmental assessment and response mechanisms are also encouraged.

Agricultural Development Policy (2013): The Policy provides for the establishment of State institutions to monitor implementation of the provisions of the policy and relevant programmes and strategies and also to prevent disasters and calamities through appropriate conflict management and technical support for the local communities. The policy calls for sustained periodic assessment and monitoring of natural resources and environmental indicators with the use of the environmental impact assessments and the development of climate change adaptation mechanisms. It acknowledges the need to develop technological innovations through agricultural research and vocational training and to strengthen the capacity of farmers and stakeholders while reducing rural poverty. It also endorses the development of agricultural research in collaboration with academic and agricultural research institutes and provision of funds for the training of rural dwellers.

The Policy also seeks to ensure food security, sovereignty and self-sufficiency. It emphasizes that sustainable management of the environment and conservation of natural resources are critical to sustainable development as well as for climate change adaptation. It provides support in specific risk areas and ensures the regulation of imports and exports of food products through collaboration with local authorities and the organized private sector and recommends the proactive improvement of the environment through integrated and sustainable management of natural resources and development of programmes to combat desertification and degradation of agricultural land, with the full participation of the local authorities. Appropriate measures with development partners are also encouraged during emergency responses in agricultural production.

Poverty Reduction Strategy Paper: Plan for the Sustainable Recovery of Mali 2013-2014: The strategy document recognizes the need for sustainable development and therefore promotes the need to factor monitoring and evaluation into development activities. It advocates for improved human resource capacity development through the setting up of a suitable compensation system, transparent promotional procedures and appropriate in-service training for public officials.

The plan recognizes the role of the media as an instrument for advocacy, public education and to raise awareness among the citizens. It also emphasizes the need to ensure peace, security and development of public services towards attaining sustainable development. It supports food security and self-sufficiency; protection of fundamental human rights; access to income-generating activities and strengthening the capacities of the micro-finance institutions. The plan strives to improve governance through decentralization, organization of credible and transparent elections and strengthening of the role of local authorities in governance and wealth formation.

It supports the fight against corruption by accelerating the restoration of the rule of law, the modernization of judicial institutions, capacity-building and training of the civil service and the consolidation of the legal framework. It also supports rural development and the socioeconomic advancement of women and youths. It promotes environmental protection and sustainable management of natural resources while intensifying and modernizing agriculture in the context of climate change. It promotes equitable access to quality health-care services and gender-sensitive development and calls for improved humanitarian emergency response and resettlement of internally displaced persons resulting from conflicts and natural disasters.

United Nations Development Assistance Framework 2008-2012: The UNDAF 2003-2007 was developed taking into account climate change adaptation and the aims of the Poverty Reduction Strategy Paper to forge synergies and support the promotion of sustainable human development, through the fight against poverty and the protection of human rights. It focuses primarily on improving governance; access to basic social services; rural development, food security and the environment, together with gender equity and HIV/AIDS.

The UNDAF 2008-2012 was developed paying particular attention to the priorities of Mali's Strategy Framework for Growth and Poverty Reduction 2007-2011. Consequently, it contains five development outcomes, which cover ten of the thirteen priorities of that Framework. The five outcomes, which implicitly and/or explicitly contain disaster risk reduction elements are: human rights, good governance and rule of law; reinforcement of the capacity of government authorities, civil society and the private sector in the planning, formulation, implementation and monitoring and evaluation of projects and programmes; improving access to quality basic social services for the most vulnerable groups; rural development, food security and sustainable development, sustainable alternative energy services and job creation; and strengthening the fight against HIV/AIDS. It also takes into account the priorities of the Hyogo Framework for Action, with the exception of priority 3.

Disaster risk reduction features in this document include the need to:

- (i) Strengthen the capacity of Government and civil society institutions to harmonize national legislation with international law and to promote a culture of peace, prevention and management of local conflicts.
- (ii) Improve the status of women and their participation in decision-making and greater involvement in the management of public affairs.
- (iii) Provide technical and financial support to develop, adopt and implement national policies and strategies to provide instruction tailored to the specific needs of the most vulnerable groups, especially the girl child education and women in rural areas.

- (iv) Encourage the development of a national early warning system for the prevention and management of food crises.
- (v) Support the development of effective coordination and responses to natural disasters
- (vi) Support research, agricultural mechanization and the provision of improved seeds with climate adaptation capability, towards sustained national food security.
- (vii) Strengthen the capacity, especially at the local level, to manage environmental degradation, dwindling resources, desertification and pollution.

4.3.3.5 Disaster risk reduction mainstreaming into selected development frameworks in Malawi

According to the Malawi assessment report, the majority of the sectoral documents do not refer to global, regional, subregional and national policy frameworks. However, the Malawi Growth and Development Strategy refers to disaster risk reduction. Moreover, disaster risk management is one of the key expected outcomes of the Strategy and the UNDAF. These frameworks inform and form the basis for disaster risk reduction and climate change adaptation mainstreaming into sectoral policies and plans. For example, the National Social Support Policy of 2009 identifies disaster risk management as one of the key tenets in realizing social policy goals.

Against the above, the report concludes that Malawi has made significant progress in mainstreaming disaster risk reduction into sectoral policies. The UNDAF for example, provides detailed baselines, indicators and targets on disaster risk reduction and climate change adaptation mainstreaming as well as stand-alone programmes targeting specific sectors, decentralized structures and communities. Similarly, the Health Sector Strategic Plan 2011-2016 focuses on strengthening disaster risk management and calls for the use of disaster assessments to inform preparedness and emergency response. However, the National Policy on Climate Change makes little reference to disaster risk reduction, suggesting that disaster risk reduction and climate change are likely to have little connection, at a time when there is a call for increased integration of the two elements into a single framework.

4.3.3.6 Disaster risk reduction mainstreaming into selected development frameworks in Namibia

In Namibia, with the exception of the National Policy on Climate Change of 2011, which refers to the Hyogo Framework for Action and Africa Regional Disaster Risk Reduction Strategy, the rest of the documents appear not to refer to global, regional, subregional and national policy frameworks, suggesting a possible lack of awareness of disaster risk reduction policies. This means that they are less likely to be mainstreamed into sectoral or cooperating partners' policies and programmes. The National Policy on Climate Change also recognizes the socioeconomic impact of floods and droughts, including on food and livelihoods security, diseases (for example, malaria) and desertification and explicitly provides strategic directions for integrating disaster risk reduction and climate change. On the other hand, the Education for All: National Plan of Action 2002-2015 is silent on disaster risk reduction.

Although the UNDAF for Namibia 2006-2010 also explicitly refers to strengthening disaster risk management from national to local levels, including through the establishment of Vulnerability Assessment Committees, it is more focused on response than on prevention. While in 2006, with support from UNDP, Namibia developed “Entry points for disaster risk reduction mainstreaming in development” which further was developed in 2010, consultations revealed that there has been limited implementation of the initiatives, mainly due to lack of funding. The Ministry of Health and Social Services Strategic Plan 2009-2013 makes clear references to the emergency and disaster response component, including conducting simulation exercises and setting up regional emergency committees. Other disaster risk reduction actions, such as prevention and mitigation, are implied in elements related to the reduction in mortality, morbidity and malnutrition rates, and improvement in waste management systems. Similarly, the National Sanitation Strategy implicitly integrates disaster risk reduction by using some of the mainstreaming tools such environmental impact assessments, focusing on reduction of water sanitation and hygiene-related diseases, and emphasizing the importance of raising awareness to encourage behavioural change. Moreover, the Fourth National Development Plan 2012/13-2016/17 implicitly integrates disaster risk reduction by referring to vulnerability to climate change and external shocks, includes hazards such as floods, drought, birds and pests. The Fourth National Development Plan also proposes to research and utilize drought-resistant crops and livestock. It also refers to environmental impact assessments as tools to inform development activities.

4.3.3.7 Disaster risk reduction mainstreaming into selected development frameworks in Zambia

Apart from the UNDAF, the other plans or strategies in Zambia do not include disaster risk reduction. The UNDAF refers to the Disaster Management Act, 2010, the Disaster Management Operations Manual and National Disaster Management Policy, all of which were derived from global and regional policies; it can therefore be implied that global and regional policies were taken into account in the UNDAF document. The UNDAF focuses on strengthening frameworks on climate change, the environment and disaster risk reduction and response in Zambia. However, the National Health Strategic Plan 2011-15 recognizes the impact of climate change on health and disaster risk reduction is implicit in prevention measures for diseases such as malaria and gastro-intestinal infections.

4.3.3.8 Disaster risk reduction mainstreaming into selected development frameworks in Zimbabwe

The Water Policy 2012 refers to, among others, the Hyogo Framework for Action, the Disaster Risk Management Bill, the Public Health Act, and the Environmental Management Act. The Climate Change Policy 2013 refers to draft disaster risk management legislation, and a related policy and strategy. Although the UNDAF does not make reference to global and regional disaster risk reduction strategies, it identifies the absence of a disaster risk management legal framework as one of the major gaps in Zimbabwe. The rest of the policies are silent on the global, regional or national disaster risk reduction policies, suggesting limited awareness of these documents.

The Food and Nutrition Security Policy (2013), Water Policy (2012), and the Climate Change Policy (2013) incorporate the application of disaster risk reduction mainstreaming tools such as hazard, vulnerability and capacity assessments, environmental impact assessments and the Disaster Risk Management Cycle. For example, the Water Policy states that ‘Comprehensive risk assessment and risk management form the backbone of these plans, which aim to steer management of drinking water-related health risks away from end-of-pipe

monitoring and response.” A major achievement of the UNDAF was the adoption of the Disaster Risk Management Bill and Policy. In addition, the National Health Strategy and the Medium Term Plan both have implicit disaster risk reduction elements. As a recovery plan, the Medium Term Plan incorporates such actions as the use of environmental impact assessments, mitigation and adaptation, and risk management, through productive safety nets. However, although it refers to the effects of natural disasters and the implicit prevention measures, the National Health Strategy has much less connection to disaster risk reduction, which suggests that there is a low likelihood that disaster risk reduction will be explicitly mainstreamed in health sector.

4.3.3.9 Disaster risk reduction mainstreaming into selected development frameworks in Mozambique

The assessment of sectoral policies Mozambique in the SADC subregional report indicates that most of the documents refer to global, regional, subregional and national disaster risk reduction policy frameworks. The National Climate Change Strategy is more explicit on the integration of disaster risk reduction and climate into a single framework. Mozambique has therefore made significant progress in mainstreaming disaster risk reduction into sectoral policies particularly through the Poverty Reduction Action Plan, the National Climate Change Strategy, the National Adaptation Programme of Action and the UNDAF.

The following conclusions can be drawn from the above review of disaster risk reduction mainstreaming in key sectors in selected countries in Southern and West Africa.

First, there appears to be regional differences between ECOWAS and SADC. In the SADC subregion, mainstreaming of disaster risk reduction in sectoral documents is based on awareness and the adoption of global, regional and national disaster risk reduction frameworks. This seems to be the case in countries such as Malawi, Mozambique and Zambia. Among the ECOWAS countries, there is little evidence of any awareness of mainstreaming based on disaster risk reduction frameworks, even though, some of the countries such as Ghana and Nigeria have disaster risk reduction policies and strategies and strong disaster risk reduction institutions.

In both regions, there is strong evidence of mainstreaming of disaster risk reduction into the UNDAFs and indication of the strong understanding of the link between development and disaster risk reduction.

Overall, disaster risk reduction mainstreaming remains limited across the continent despite most countries having disaster risk reduction institutions and policies or strategies, which may be in various stages of development. As already noted, National Platforms, which are mechanisms for advocacy and promoting mainstreaming, remain largely weak and non-functional, disaster risk reduction units have insufficient capacity and there is inadequate budgetary allocation for operational programmes of those units. Therefore, institutional capacity is generally insufficient to meet the disaster risk reduction efforts needed to reduce disaster risks in the subregions.

4.4 Implementing disaster risk reduction in Africa

The following sections provide brief outlines of disaster risk reduction implementation at the various levels. The extent of implementation of Hyogo Framework for Action priorities and the main objectives of the Africa Regional Strategy for Disaster Risk Reduction has been used as the basis.

4.4.1 Implementation of disaster risk reduction measures at regional level

(a) Hyogo Framework for Action Priority 1/Africa Regional Strategy for Disaster Risk Reduction Objectives 1 & 5: *Ensuring that disaster risk reduction is a national priority with a strong institutional basis/Increase political commitment to disaster risk reduction/ Improve governance of disaster risk reduction institutions and reduce the underlying risk factors: including climate change.*

The region has made good progress in terms of institutionalization and establishment of frameworks for disaster risk reduction, as discussed in earlier sections of the report. In addition, the African Union has also been able to mobilize resources at the regional level for implementation of disaster risk reduction. The establishment of Africa Risk Capacity is a significant achievement in addressing compensatory disaster risk reduction. Commendable progress has also been made in the integration of disaster risk reduction and climate change in both corresponding frameworks at the regional level.

(b) Hyogo Framework for Action Priority 2/Africa Regional Strategy for Disaster Risk Reduction Objective 2: *Identify, assess and monitor disaster risk and enhance early warning/ Improve identification and assessment of disaster risks.*

At the regional level, there is currently lack of coordinated early warning systems, except for detecting conflict-related emergencies. So far there has been no comprehensive risk assessment in Africa, but the Regional Platform and meetings of the Africa Working Group have provided opportunities for monitoring of progress.

(c) Hyogo Framework for Action Priority 3/Africa Regional Strategy for Disaster Risk Reduction Objectives 3 & 4: *Use knowledge, innovation and education to build a culture of safety and resilience at all levels/Increase public awareness of disaster risk reduction and enhance knowledge management.*

The Declaration of the Second African Ministerial Conference on Disaster Risk Reduction called upon the African Union Commission, the NEPAD Planning and Coordination Agency, regional economic communities and member States to create a network of capacity development institutions for training, research, and information management and exchange at country, subregional and regional levels, in collaboration with international and regional partners. Higher education institutions have heeded that call, and disaster risk reduction education and research are being increasingly integrated in university curricula and education programmes. A good example is the Partners Enhancing Resilience to People Exposed to Risks in Africa, a consortium of 10 African universities established in 2006 and coordinated at Stellenbosch University, South Africa, which is committed to strengthening strategic capacity to reduce and manage contextually relevant disaster risks in Africa.

(d) Hyogo Framework for Action Priority 4: *Reduce the underlying risk factors (including linkage with climate change)*

At the strategic level, the Programme of Action for Implementation of the Africa Regional Strategy for Disaster Risk Reduction was revised in 2010 to integrate climate change, while the draft Africa Climate Change Strategy integrates disaster risk reduction as an important tool for climate change adaptation.

(e) Hyogo Framework for Action Priority 5/Africa Regional Strategy for Disaster Risk Reduction Objective 6: *Strengthen disaster preparedness for effective response at all levels/Integrate disaster risk reduction in emergency response management.*

The development of a humanitarian policy within disaster risk reduction is an effort to integrate disaster risk reduction into emergency response.

In conclusion, significant efforts and achievements have been made at regional level. Policy and strategic frameworks have been put in place, but institutional mechanisms for coordination and continue to be weak.

4.4.2 Implementation of disaster risk reduction at subregional level

(a) At the subregional level as well, the majority of progress has been recorded in the development of strategies and policy frameworks that provide a basis for disaster risk reduction. Nearly all regional economic communities, with exception of ECCAS, have disaster risk reduction or disaster risk management frameworks that are fashioned after the Africa Regional Strategy for Disaster Risk Reduction or the Hyogo Framework for Action. They also have units devoted to disaster risk reduction. It is therefore fair to conclude that at the institutional level, disaster risk reduction has been mainstreamed into most of the regional economic communities.

(b) Progress has also been significant in other areas. IGAD has developed Hazard Maps and an Atlas that maps of the main hazards in the subregion. This tool address priority 2 of the Hyogo Framework for Action, which calls for hazard mapping and risk assessment as an essential step in mainstreaming of disaster risk reduction. It enables targeted disaster risk reduction programmes in the most vulnerable areas or communities.

(c) In the EAC, IGAD and SADC, climate outlook forums have become powerful tools for climate prediction and early warning on climate events. Examples include the Southern Africa Climate Outlook Forum (SARCOF) and the Greater Horn of Africa Climate Outlook Forum (GHACOF). These forums bring together national disaster risk management offices, national meteorological departments, sectoral ministries, academia and other stakeholders to disseminate seasonal climate forecasts and predictions for the upcoming seasons. The multisectoral and multidisciplinary character of these forums makes them a powerful opportunity for advocacy for mainstreaming disaster risk reduction.

(d) Vulnerability assessment processes are well established in the SADC subregion. The SADC Regional Vulnerability Assessment Committee, which was established in 1999, works through 10 of the 15 National Vulnerability Assessment Committees of SADC member States. This is a well-institutionalized process for identification of risks and vulnerabilities.

(e) The regional economic communities are assisting member countries with public awareness and advocacy. Many higher education institutions are also mainstreaming disaster risk reduction into their academic curricula as well as undertaking policy-relevant research on disaster risk reduction themes. For example, an effort by the African Union to undertake inventory of higher education institutions with research and education programmes in disaster risk reduction received 17 submissions from across the region: four each from the EAC, IGAD, SADC, and ECCAS, and nine from ECOWAS (African Union Commission, February 2013).

(f) Many subregions are now linking disaster risk reduction with climate change in their subregional frameworks. The EAC is particularly advanced in that regard, with the East African Community Climate Change Policy providing guidance to Partner States and other stakeholders on the preparation and implementation of collective measures to address climate change in the subregion while ensuring sustainable social and economic development. The aim of the Policy is to strengthen meteorological services and improve early warning systems, increase preparedness for disaster risk management and address other vulnerable sectors (EAC, 2010). Box 9 below provides a synopsis of various dimensions of implementation of disaster risk reduction by the regional economic communities.

Box 9

Implementation of disaster risk reduction at the subregional level

There are a few organizations that operate to combat drought in sub-Saharan Africa. ECOWAS is developing programmes on environment and natural resource management, including the management of desertification and water resources. SADC, through Water Sector Division, has an approved strategic approach to manage droughts and floods. The key institutional player is the SADC Drought Monitoring Centre, now known as the Climate Services Centre, in Gaborone, Botswana. The SADC Regional Early Warning Unit develops information on weather threats and conditions as well as drought, and works closely with the African Centre of Meteorological Application for Development (ACMAD). The mission of ACMAD is to provide weather and climate information to member countries through weather prediction, climate monitoring, technology transfer (telecommunications, computing, and rural communication) and research. IGAD operates a Regional Early Warning System as a key component of national drought and flood preparedness in the Horn of Africa. The IGAD Climate Prediction and Applications Centre in Nairobi, Kenya, is responsible for the Greater Horn of Africa Climate Outlook Forum, a participatory consensus mechanism for deriving seasonal forecasts. In the SADC subregion, a similar process is the Southern Africa Climate Outlook Forum. The AGRHYMET Regional Centre in Niger is a specialized centre for training and applications in agro-meteorology and operational hydrology. The services of these few technical institutions are limited, however, due to lack of resources and capacity.

4.4.3 Implementation of disaster risk reduction at the national level

Information on national implementation of disaster risk reduction is drawn from the biennial Hyogo Framework for Action progress reports. This is part of the global reporting mechanism for assessing progress in the implementation of the Framework. In addition, to the summaries presented in the ECOWAS and SADC subregional reports, a number of progress reports of countries in other subregions have been examined. These are Burundi, Djibouti, Ethiopia, Kenya and Rwanda from Eastern Africa and IGAD; and Algeria, Egypt and

Morocco from Northern Africa. Reports from three island States, namely the Comoros, Madagascar and Seychelles were also reviewed.

For West Africa, the ECOWAS subregional report reviewed implementation of disaster risk reduction in a range of countries, namely Burkina Faso, Cabo Verde, Côte d'Ivoire, Gambia, Ghana, Nigeria, and Sierra Leone, while in Southern Africa the SADC subregional report included assessment of the 13 SADC member States that submitted progress reports (South Africa and Swaziland did not do so).

In terms of the Hyogo Framework for Action progress reports, each country voluntarily assesses its progress in the implementation of the five priority areas for action. For each priority area, there are a number of core indicators, labelled (CI) in Table 11. For example, in Priority 1, for the indicator entitled "National policy and legal framework for disaster risk reduction exists with decentralized responsibilities and capacities at all levels," there are two questions to which a yes and no response is required:

- (i) Is disaster risk taken into account in public investment and planning decisions?
- (ii) Have legislative and/or regulatory provisions been made for managing disaster risk?

For question one, if the answer is yes, then evidence is required on whether disaster risk reduction has been of interest in key development frameworks such as the national development plans, Poverty Reduction Strategy Papers, climate change policies, United Nations development frameworks (Common Country Assessment/UNDAF). A yes answer to question two requires a description of the key policy and legislative frameworks and institutional structures.

The overall score on each core indicator is an indication of the level of progress achieved in descending order as follows:

- 5:** Comprehensive achievement attained, with sustained commitment and capacities at all levels
- 4:** Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/or operational capacities
- 3:** Some progress, but without systematic policy and/or institutional commitment
- 2:** Institutional commitment attained, but achievements are neither comprehensive nor substantial
- 1:** Minor progress, with few signs of forward action in plans or policies

The following is a brief discussion on progress in implementation of the each Hyogo Framework for Action Priorities at the national level.

Hyogo Framework for Action Priority 1: Ensure that disaster risk reduction is a national and local priority with strong institutional basis for implementation

With the exception of the Comoros, all of the countries reviewed in the Southern Africa region generally rated themselves between 3 and 4 against the Priority 1 indicators. The Comoros ratings between 1 and 2 is a reflection of the fact that the country has no disaster risk reduction policy, legislation or strategy, although it reports have a National

Platform established in 2007. All of the West African countries reviewed have also given themselves positive rating, as most have disaster risk reduction units, policy or plans. Some, such as Ghana and Nigeria have disaster risk reduction agencies established by legislation, with structures extended to the grassroots. In Cabo Verde, disaster risk reduction is integrated into key national development frameworks. The ratings with regard to Priority 1 indicate the substantial achievement attained in the establishment of institutional and policy instruments for disaster risk reduction, but recognize the limitations in key aspects, such as financial resources and/or operational capacities. Indeed, as already noted, more than 90 per cent of countries in Africa have disaster risk reduction agencies, although only about 40-50 per cent have policies or legislation.

Hyogo Framework for Action Priority 2: Identify, assess and monitor disaster risks and enhance early warning

The ratings for Priority 2 indicators in Southern African countries are generally also between 3 and 4. This is also consistent with the results in Table 11, where most countries report availability of local risk assessment and hazard data, including transboundary data, as well early warning systems and mechanisms for dissemination of information. Similarly in West African countries, with the exception of Sierra Leone, all countries report the existence of risk and vulnerability assessments and early warning systems. On the basis of Hyogo Framework for Action progress reports and information from other sources, it is fair to suggest that many countries have early warning systems as a matter of necessity, particularly for known regular hazards such cyclones, droughts, epidemics and earthquakes. Vulnerability assessments are regular events in SADC, while countries such as Algeria and Mauritius have well-established early warning systems for earthquakes and cyclones respectively.

Hyogo Framework for Action Priority 3: Use knowledge, innovation and education to build a culture of safety and resilience

The ratings for Priority 3 also reveal general progress, with the majority of ratings being between 3 and 4 for all the indicators in Southern Africa. The most notable progress in the regions has been made in indicator 4, relating to the existence of countrywide strategy for public awareness to build a culture of resilience, with ratings of 5 for Botswana and Mozambique. It should be noted that most countries have urban plans and building codes, but enforcement of these poses the main challenge, due to capacity constraints and corrupt practices of officials. For the countries in Table 11, most countries rate themselves at 3 with only, Madagascar, Morocco and Rwanda rating themselves at 4. The majority of countries also give themselves a rating of 3 for indicator 3 on research and tools for risk assessment with the exception of Burundi, the Comoros, Egypt, Rwanda and the Seychelles. In West Africa, the subregional report indicates no tangible progress on Priority 3 with exception of indicator 4 on public education programmes in Ghana, Nigeria and the Niger. This needs to be qualified, as we have already noted the increasing integration of disaster risk reduction education into curricula of higher education institutions, which appears not to be reflected in most of the reports.

Hyogo Framework for Action Priority 4: Reduce the underlying risk factors

The implementation of Priority 4 in countries in Southern Africa varies across the region, ranging from the lowest rating of 1 for Lesotho to an average rating of 4 for Mozambique and Zambia, indicating substantial progress in efforts to reduce underlying risks. Zambia rated itself at 5 on indicator 5, integration of disaster risk reduction into post-disaster

recovery and rehabilitation processes. The results for countries in Table 11 also generally indicate ratings of 3 to 4, with the exception of the Comoros (ratings of 1 to 2 for most indicators) and Burundi for indicators 4, 5 and 6. Most countries report integration of disaster risk reduction into environment and related policies, social development policies, economic and productive sectors, planning of human settlement, and post-disaster recovery and rehabilitation activities, as well as the existence of procedures to assess the impacts of major development projects, such as infrastructure. This rating is consistent with the observation that most sectors integrate elements of disaster risk reduction routinely as part of institutional mandates. However, this is inconsistent with conclusion of the third United Nations Global Assessment Report that the least progress has been made globally in implementation of Hyogo Framework for Action Priority 4. The reports on West African countries reviewed appear consistent with this observation, as no tangible progress is reported on this Priority.

Hyogo Framework for Action Priority 5: Strengthen disaster preparedness for effective response at all levels

In Southern Africa, most countries, with exception of Lesotho, rate themselves between 3 and 5 across the indicators for Priority 5. Mozambique and Zambia have scores of 5 for indicator 2, suggesting that in these countries, 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. However, in relation indicator 3 on financial reserves and contingency mechanisms, with the exception of Botswana, most countries, particularly Madagascar and Malawi still face challenges. Mauritius, Mozambique, the United Republic of Tanzania and Zambia appear to have made significant progress in other areas of disaster preparedness. In Table 11, Burundi, the Comoros, Kenya, and to some extent Djibouti, report having made the least progress in the area of disaster preparedness and response.

Most of the other countries rate themselves between 3 and 4, with Algeria rating itself at 5 on existence of procedures for information exchange during disaster events and the undertaking of post-disaster reviews. In West Africa, Burkina Faso, Cabo Verde, Gambia, Ghana and Nigeria report progress in the existence of disaster preparedness and contingency plans. Cabo Verde and Nigeria have emergency funds, while Côte d'Ivoire, Guinea-Bissau and Sierra Leone report little progress. In general, it can be concluded that there has been significant progress in building capacity for disaster preparedness across Africa during and after the International Decade for Natural Disaster Reduction. The majority of institutional structures, and policy and legislative frameworks still focus on preparedness, posing a major challenge to achieving a paradigm shift to disaster risk reduction. Despite the apparent capacity for disaster preparedness, Africa's response to disasters is still characterized by overdependence on international humanitarian organizations and partners.

In summary, it can be said that some significant progress has been made in the implementation of disaster risk reduction across Africa. Most progress appears to have been made in the establishment of governance structures and institutions for disaster risk management, with most countries having an agency that addresses disaster risk management issues. Some progress has been made in terms of policy and legislative frameworks, but much remains to be done. However, the governance dimension appears to pose the most critical challenge towards a paradigm shift to disaster risk reduction. Institutions, policies and legislation, together with resource allocations, need to be reoriented from disaster preparedness and response to disaster risk reduction in order to facilitate mainstreaming.

Countries that experience regular disasters such as cyclones, drought, earthquakes and floods appear to have made more concerted efforts to put in place structures and systems for hazard and risk assessment, vulnerability assessment, early warning and education and public awareness programmes. These include Mauritius for cyclones, Botswana and Ethiopia for drought, Mozambique for floods and Algeria for earthquakes. While efforts to reduce risks are generally integrated into institutional mandates of key sectors such as agriculture, environment, human settlements and health, these do not appear to derive from a conscious integration of disaster risk reduction concepts and practices. Nevertheless, due to the cross-cutting and multisectoral nature of disaster risk reduction, systematic mainstreaming of the issue in various sectors could easily be achieved through appropriate advocacy and awareness-raising. The synergies between sector programmes and disaster risk reduction make it easier to sell disaster risk reduction.

Table 11

Summary of National Hyogo Framework for Action Progress Reports for selected countries

HYOGO FRAMEWORK FOR ACTION PRIORITY/ COUNTRY	Algeria	Burundi	the Comoros	Djibouti	Egypt	Ethiopia	Kenya	Mada- gascar	Mauritius	Morocco	Rwanda	the Seychelles
Priority 1: Ensure that disaster risk reduction is a national and local priority with a strong institutional basis for implementation												
CI1: <i>National policy and legal frameworks for disaster risk reduction exist with decentralized responsibilities and capacities at all levels.</i>	3	4	2	3	4	4	3	4	3	3	4	4
CI2: <i>Dedicated and adequate resources are available to implement disaster risk reduction plans and activities at all administrative levels</i>	4	4	2	3	2	4	2	3	3	3	4	2
CI3: <i>Community participation and decentralization are ensured through the delegation of authority and resources to local levels</i>	3	3	2	1	4	4	4	4	3	3	3	4
CI4: <i>A national multisectoral platform for disaster risk reduction is functioning.</i>	4	4	1	2	4	4	3	4	3	3	4	4
Priority 2: Identify, assess and monitor disaster risks and enhance early warning												
CI1: <i>National and local risk assessments based on hazard data and vulnerability information are available, including key sectors.</i>	4	3	3	3	4	4	3	4	3	3	4	4
CI2: <i>Systems are in place to monitor, archive and disseminate data on key hazards and vulnerabilities</i>	3	2	2	3	3	4	4	4	3	3	4	4
CI3: <i>Early warning systems are in place for all major hazards, with outreach to communities.</i>	3	3	3	3	3	3	4	4	3	3	4	4
CI4: <i>National and local risk assessments take account of regional / trans boundary risks.</i>	3	2	2	3	3	4	4	2	3	3	4	4
Priority 3: Use knowledge, innovation and education to build a culture of safety and resilience at all levels												
CI1: <i>Relevant information on disasters is available and accessible at all levels, to all stakeholders</i>	3	2	2	3	3	3	3	4	3	4	3	1
CI2: <i>School curricula, education material and relevant trainings include disaster risk reduction and recovery concepts and practices.</i>	3	1	3	3	3	3	4	4	3	4	4	1
CI3: <i>Research methods and tools for multi-risk assessments and cost-benefit analysis are developed and strengthened.</i>	3	1	2	4	2	3	3	3	3	4	2	2
CI4: <i>Countrywide public awareness strategy exists to stimulate a culture of disaster resilience, with outreach to urban and rural communities</i>	3	3	2	3	4	3	3	4	3	3	4	4

Priority 4: Reduce the underlying risk factors												
CI1: <i>Disaster risk reduction is an integral objective of environment-related policies and plans.</i>	4	3	2	4	4	4	4	3	4	4	4	4
CI2: <i>Social development policies and plans are being implemented to reduce the vulnerability of populations most at risk</i>	4	4	1	3	3	4	3	2	4	3	3	2
CI3: <i>Economic and productive sectoral policies and plans have been implemented to reduce the vulnerability</i>	4	3	2	3	4	3	4	3	3	4	4	2
CI4: <i>Planning and management of human settlements incorporate disaster risk reduction elements, including enforcement of building codes.</i>	5	2	2	4	3	3	3	2	3	4	3	4
CI5: <i>Disaster risk reduction measures integrated into post-disaster recovery and rehabilitation processes</i>	4	1	1	3	3	3	2	4	3	3	4	4
CI6: <i>Procedures are in place to assess the disaster risk impacts of major development projects, especially infrastructure</i>		2	1	1	3	4	4	2	3	3	4	4
Priority 5: Strengthen disaster preparedness for effective response at all levels												
CI1: <i>Strong policy, technical and institutional capacities and mechanisms for disaster risk management, with a disaster risk reduction perspective are in place.</i>	3	4	1	3	4	4	2	4	3	2	4	4
CI2: <i>Disaster preparedness 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</i>	4	2	2	3	4	4	2	4	3	3	2	3
CI3: <i>Financial reserves and contingency mechanisms are in place to support effective response and recovery when required</i>		1	1	2	3	4	2	2	3	2	3	4
CI4: <i>Procedures are in place to exchange relevant information during hazard events and disasters, and to undertake post-event reviews</i>	5	2	1	2	2	4	2	4	3	3	4	4

4.5 Challenges and opportunities in mainstreaming and implementing disaster risk reduction interventions

Mainstreaming and implementation of disaster risk reduction is a complex process. As demonstrated in a study of mainstreaming disaster risk reduction into development in the Philippines (Benson, 2009), it first requires great awareness of the hazard-prone nature of a region or country, the disaster challenges faced, the human, social and economic impacts of these disasters and their overall effect on development. This needs to translate into a strong appreciation and understanding of the relevance of disaster risk reduction for sustainable development and poverty reduction. Second, mainstreaming and implementation requires the establishment of an enabling environment, including adequate legislation, disaster risk management strategies and plans, and appropriate institutional arrangements, capacity, frameworks and budgetary considerations. Legislation in particular empowers the mainstreaming of disaster risk reduction.

4.5.1 Challenges

(a) Although there is a growing data on the frequency and impact of disasters in Africa, there is inadequate collection, management and dissemination of data and information on hazards, vulnerability and disaster risk reduction. Addressing this weakness in the evidence base is vital to support activities such as awareness-raising and advocacy and implementation of disaster risk reduction mainstreaming.

(b) Current disaster risk governance and institutional frameworks face serious challenges in operational mainstreaming of disaster risk reduction in development programmes.

(c) At regional and subregional levels policies and strategic frameworks are non-binding, which affects their implementation, as they cannot be enforced.

(d) There is weak political commitment to disaster risk reduction at national levels as a result of a lack of awareness and understanding of the issue and competing priorities for scarce resources.

(e) While disaster risk reduction policies in many countries either have been developed or are in the draft, legislation to provide legal force for mainstreaming has lagged behind.

(f) Most institutional frameworks are still more adapted or attuned to response and/or preparedness and contingency planning for response. A paradigm shift towards disaster risk reduction remains a challenge.

(g) Although disaster risk reduction units and agencies exist at regional and subregional levels, and in almost all member States, most of these face capacity challenges, in terms of human resources, facilities and finances. Most are not adequately budgeted for. For example, in SADC, the RIASCO study found that governments budgets for disaster risk reduction covered only manpower and operational costs, with little funding allocated to programme implementation.

(h) Coordination capacities remain weak at all levels. At the regional level, there is no coordination mechanism between the different African Union Commission sectors on disaster risk reduction issues. Platforms at the subregional level are only in the process of being established and remain weak. Although the majority of countries report having national platforms, many of these remain non-functional.

(i) There is insufficient understanding of disaster risk reduction concepts and frameworks. Most sectors at all levels operate in silos, with little opportunity for injecting disaster risk reduction consideration in their planning and programming.

(j) Climate change adaption and disaster risk reduction are now integrated in the regional and some subregional frameworks; but progress is still lagging behind at the national level.

(k) There is lack of or weak enforcement of strategic and regulatory frameworks such as environmental impact assessments and building codes, often due to corrupt practices of public officials.

4.5.2 Opportunities

In spite of the challenges, some of achievements and progress made in the implementation of disaster risk reduction present opportunities for mainstreaming

(a) Comprehensive frameworks (policies, strategies) for disaster risk reduction now exist at regional and subregional levels, providing a basis for mainstreaming. Many of sectoral frameworks such as CAADP, the Africa Climate Change Strategy and the Social Policy Framework for Africa have already integrated disaster risk reduction and should serve as models.

(b) Agenda 2063, which will guide Africa's development path for the next 50 years, has integrated disaster risk reduction concerns, and should provide opportunities for other sectors to review their frameworks and take on board disaster risk reduction issues.

(c) Many regional sectoral frameworks for example those on water, mining and industry, and PIDA provide opportunities for mainstreaming

(d) Many higher education institutions have already taken up the challenge with regard to education and research in disaster risk reduction. Capacity-building for disaster risk reduction through university diploma courses will provide opportunities in the medium to long term for appropriate disaster risk reduction decision-making and institutional changes.

(e) The regional drive for integration presents an opportunity to strengthen institutions and develop programmes to deal with cross-border hazards and disasters. The coordinating role of NEPAD also provides opportunities for cross-sector integration of disaster risk reduction.

(f) Adoption of inclusive green economy strategies, policies and programmes in a growing number of African countries such Ethiopia, Mozambique, Rwanda and South Africa, present an opportunity to address poverty and environment degradation as well ensuring socially equitable development. This will combat environment degradation, poverty and

inequality, which are some of the key factors that contribute to vulnerability and eroding resilience.

(g) Emerging climate change-related plans, programmes and funding mechanisms, such National Adaptation Programmes of Action, REDD+ and the Green Climate Fund, provide an opportunity for combined actions on and funding for disaster risk reduction mainstreaming.

(h) United Nations Development Assistance Frameworks and other bilateral and multilateral development aid frameworks also provide opportunities for mainstreaming. For example FAO and the United Kingdom Department of International Development (DfID) have disaster risk reduction frameworks that inform their support for disaster risk reduction activities, particularly in terms of funding.

(i) Many sectoral plans and strategies provide opportunities for mainstreaming. Examples include: environment policies, land use strategies, plans, programmes and building codes; recovery and rehabilitation schemes and social safety nets; risk insurance and financial risk-sharing mechanisms; public-private partnership programmes; rural development plans; and community-based development programmes.

Chapter 5: Synthesis of good practices in disaster risk reduction mainstreaming and implementation

5.1 Introduction

This chapter distils and synthesizes good practices in disaster risk reduction mainstreaming and implementation. They were drawn from the subregional and national reports and other sources. The definition and criteria considered in selecting good practices for the purpose of this report is provided in Box 10 below.

Box 10

Definition and criteria for selection of good practices

A "good practice" for the purposes of this report may be a tool, methodology, set of guidelines, approach, policy, plan, programme or other intervention that is an example of how to effectively assess vulnerability or mainstream and/or implement disaster risk reduction and management interventions that that deserves to be showcased for the attention and interest of other policymakers or practitioners. Good practices were selected based on how they met the following attributes:

- (i) Recognize and address the root causes of vulnerabilities that result into disasters.
- (ii) Ensure the participation of and ownership by key stakeholders, particularly the affected communities, of disaster risk reduction and management interventions.
- (iii) Focus on and attain outcomes and impacts, including the translation of policies and programmes into tangible results on the ground, especially with regard to ensuring resilient livelihoods.
- (iv) Ensure social inclusion that recognizes the diverse categories of affected communities including women, men, and marginalized and other disadvantaged groups.
- (v) Embody integrated approaches that are multi-stakeholder in nature and take into account social, economic and environmental dimensions of disaster risk reduction and management.
- (vi) Entail development and strengthening of effective partnerships for disaster risk reduction and management. Such partnerships may be between affected communities, local and national governments, civil society organizations or donor organizations.
- (vii) Ensure sustainability including by addressing current and future risks and ensuring sound environment management.
- (viii) Be adequately backed by a sound statistical and information base, as applicable.
- (ix) Ensure effective institutional arrangements for disaster risk reduction.
- (x) Have a high potential for replication.

5.2 Synopsis of selected good practices in disaster risk reduction mainstreaming and implementation

This section presents a synthesis of good practices in mainstreaming of disaster risk reduction drawn from across the African continent, with a few from other parts of the world. The good practices are largely drawn from the subregional and national reports, but there are also interesting examples from other regions and subregions not in Africa that have been sourced from available reports. Efforts have been made to identify good practices that reflect geographical coverage and representation and cover a variety of themes, such as institutional and gender dimensions and sectoral representation. The good practices also reflect the range of stakeholders involved in championing implementation of disaster risk reduction. These include Governments providing leadership, government agencies, United Nations agencies, partner organizations, including NGOs and faith-based organizations, and local communities.

(a) Protecting livelihoods with local warning and response systems in Mozambique (UNISDR, 2008)

Context: Mozambique is one of the poorest countries in the world and one of the most frequently and worst affected by natural hazards. Most of its people depend on subsistence farming, which is highly vulnerable to floods, cyclones and droughts. Moreover, poor housing, lack of education, a shortage of health services and poor communication and transport facilities make the population particularly vulnerable.

In 2000, the heaviest rains in 50 years, combined with four cyclones, led to an unprecedented flood disaster that left some 800 people dead and around 4.5 million affected. This disaster, as well as others in the following years, reinforced the existing cycle of poverty, and eroded development gains. No warning system was in place, and it is only recently that efforts have been made to develop systematic coping mechanisms and strategies.

Project objectives and approach: In June 2007, a programme was launched by the country's National Institute of Disaster Management (INGC) to help build disaster-resilient communities, as part of its National Master Plan for Disaster Risk Management and Reduction. The programme seeks to reduce community vulnerabilities and strengthen the population's ability to protect themselves through mechanisms such as local disaster management committees and local warning and response systems.

It was expected that by November 2008, the programme would have supported about 60,000 community members living in high-risk areas.

The programme was implemented nationwide in Mozambique. InWent (Capacity Building International), a German organization focusing on capacity-building, provides support to the INGC in six districts of the three northern provinces of Nampula, Cabo Delgado and Niassa. The six districts – Moma, Mecufi, Nacala, Lago, Aldeia Sassalane, and Metanculo – were identified as very poor and particularly vulnerable to disasters such as cyclones, floods and earthquakes. The programme is implemented by the INGC with assistance from InWent and financial support from the German Ministry of Foreign Affairs.

A number of the country's most vulnerable communities were identified and encouraged to form local disaster management committees comprising 20 to 25 members. Members have specific roles and were trained in different fields of disaster reduction. Some

members ensure that crucial early warning information reaches the right communities, authorities and relief agencies. Others were trained in evacuation, first aid, shelter and relief. Simulation exercises are carried out on how to prepare for and respond to floods, cyclones and earthquakes.

The programme also included identifying evacuation routes, developing risk maps, and designing community emergency plans and approaches that educate community members to better understand and respond to specific threats. A partnership with the Mozambican Ministry of Education and Human Development was established to integrate disaster risk reduction into school lessons and school infrastructure.

After a preparatory period, the first activities were rolled out in June 2007 with a series of consultative workshops with authorities, community leaders and other key community members. Thirty-four disaster management committees have been established and trained so far. The plan was to ensure that all communities exposed to disaster risk are covered by the programme.

Outcome: Prior to these programme interventions, the targeted communities had never received information and training on disaster risk reduction. Approximately 50 people were trained in each of the three provinces in disaster risk reduction, awareness-raising and the development of local warning and response systems. Support from InWEnt was guaranteed until November 2008, after which there would be an assessment, and a project extension would be considered.

Overall, the project helped to build stronger community cohesion and increased self-confidence. It also assisted local populations to become hands-on activists to protect their communities, in addition to improving disaster preparedness and reducing loss of life, property and livelihoods.

Strategies were put in place to form local disaster management committees and develop a warning system to guide the population and inform authorities and relief agencies. These initiatives are building the capacity of local populations and empowering them to play a proactive role in ensuring the security of their families and livelihoods.

Also, a participatory approach has been adopted, which not only minimizes disaster risk and vulnerability but also addresses poverty risks. It builds upon best practices learned from other successful interventions in flood-affected areas in Mozambique, which have been adapted and enhanced for maximum effectiveness. The stronger community cohesion and increased self-confidence resulting from the project is assisting local populations to play an active role in the protection of their communities. This sense of activism and confidence also benefits community life beyond the specifics of disaster mitigation.

The results of this long-term approach have now become visible, as communities in Mozambique have become more prepared to respond to subsequent floods, and cyclone.

Good practice: The project is an example of good practice because it uses a participatory approach to build upon the capacity of local populations, and empowers them to play a proactive role in ensuring the security of their families and livelihoods. The benefits of the approach are easily demonstrated to participants, encouraging 'buy-in'. It is cost-effective and has been adapted from other effective interventions elsewhere in Mozambique.

Furthermore, it is easily transferable and can be adapted to other regions and countries. The project is also an example of a good practice of mainstreaming of disaster risk reduction in national frameworks that has been translated into action and implemented at the national level.

Success factors and lessons learned: A key success factor of this initiative was the direct involvement of local populations, which are best placed to identify multiple disaster risks. Coupled with the tangible benefits brought to the communities by effective disaster response, this resulted in a highly motivated target group of beneficiaries. Selected participatory approaches ensured that provincial, district and community actors were all actively involved in the development of the programme. Furthermore, more training, refresher courses and simulation exercises will be conducted to ensure continuity and the sustainability of the knowledge gained.

Key lessons learned from the project are that:

- Communities need to be mobilized to accept and own mitigation activities.
- Involvement and integration of local government officials, elders and community leaders into the process and in the development of risk reduction plans is essential.
- The community itself is a key agent of disaster preparedness. Once involved, people are highly motivated to protect themselves.

Challenges:

The major challenges for this project were:

- Complex local dynamics.
- Lack of resources. Sustainability means long-term investment and training, which can be costly.
- Poor infrastructure undermines access to and supervision of remote areas.
- Competing priorities within the Mozambican Government's development agenda placed a squeeze on both technical/administrative capacity and on access to resources.

Potential for Replication: The programme can be easily transferred and adapted to other countries with disaster risks. Similar examples already exist in Bangladesh, Costa Rica and Honduras.

Replicating the programme in another context requires the involvement of community workers trained in disaster risk reduction as well as in the use of appropriate materials (such as megaphones, radios, and first-aid kits) depending on the given context. Moreover, political commitment is needed at the national level, as well as at the provincial and district levels, to mobilize the population to take care of themselves as much as possible.

(b) Disaster preparedness to reduce poverty in drought-prone area: Community-based rock rainwater harvesting and storage in Kenya (UNISDR 2008)

Context: Poor communities in Kitui District in eastern Kenya have no choice but to try to survive in their dry and drought-prone areas, where they are burdened by chronic malnutrition and lack of resources. In 2006, an increase in drought frequency and severity triggered a downward spiral in terms of disaster vulnerability and poverty.

Project objectives and approach: In this context, a community-based rock rainwater harvesting and storage project was initiated in October 2006 by Welthungerhilfe, after more than a year of intensive baseline data collection on the ground, including many community interviews, discussions with stakeholders and reviews of secondary data. The project was funded by the European Commission Directorate-General for Humanitarian Aid and Civil Protection and was carried out from October 2006 to 31 December 2007 in Mutha and Ikutha divisions of what was then known as Kitui District, Eastern Province, Kenya.

The project targeted over 36,000 men, women and children from water-poor communities that were highly vulnerable to the effects of drought.

The aim of the project was to increase the capacity of the most vulnerable communities to withstand recurring droughts. The drought preparedness initiative aimed to improve the availability of drinking water and access to it, even in dry periods, in order to improve public health.

The 14-month project was implemented in close collaboration with other initiatives in relevant sectors aimed at reducing poverty. Access to clean drinking water was the top priority in the targeted areas, and solving this particular problem was seen as a way to address many other problems. Drought preparedness, focusing on access to and availability of drinking water, was the best way to begin enabling and supporting poverty reduction. It was implemented with the involvement of drought-affected communities, their chiefs and elders, other relief and development agencies operating in the area, as well as relevant government ministries.

The strategies adopted by the project were as follows:

- Strategic positioning of water access points to ensure easy maintenance and sustainability, with great emphasis on rainwater collection and storage in areas with low groundwater potential (any area with seasonal rains of 150 mm or more is suitable for rainwater collection).
- Intensive and highly participatory community involvement throughout the project.
- Community capacity-building.
- Intensive training, including on hygiene and contingency water management.

Outcomes: Drought-affected water-poor communities had at least 3 litres of safe drinking water per person per day, available for at least 90 days of each dry season within walking distance from their homes, at a maximum of 4 km- thus enabling them to bridge the

worst period when surface water surfaces have dried up. The beneficiaries' health improved, particularly where water-borne diseases are concerned. This was a result of improved water access and availability, and improved sanitation and hygiene practices. The beneficiaries' drought coping and management capacities have been strengthened.

Good practice: This project can be considered a good practice because it deals with rock catchments, which are a key to the sustainable development of rural community water supply in drought-prone areas. It was multisectoral in nature and implemented with the participation of drought-affected communities. Its broad experience reveals that rainwater harvesting and storage, particularly via rock catchments is:

- Vastly underused in spite of its high potential.
- An advantageous option for supporting community water supplies, especially in arid and semi-arid areas with limited rainy seasons and long dry spells.
- An appropriate low-tech and cost-effective technology.
- Yields an enormous potential for providing a decentralized supply of drinking water.

Success factors and lessons learned: Key success factors in the project include: intensive and genuine community participation from the assessment stage onwards; close monitoring and assistance by technically knowledgeable staff; and the deployment of local skilled artisans to remain with the beneficiary communities and guide them throughout their work.

Lessons learnt

- Rainwater collection and storage for drinking purposes is an ideal drought preparedness tool for arid and semi-arid areas that do not have suitable groundwater potential;
- Intensive community awareness-raising, and mobilization, together with consistent involvement and capacity-building are key to ownership and sustainability;
- As rock catchments depend on suitable geological features, the type of water supply structures involved must be strategically combined with other types of structures – such as protected wells, sand dams, and so forth – so as to ensure a strategic spread of sources in drought-prone areas.
- Decentralized point sources are an excellent option where other options are too expensive or do not exist.
- Communities adopt and 'own' such ideas and approaches immediately.
- Community capacity can be built so that beneficiaries themselves can own, operate, maintain and manage their water.

Challenges: The major challenge for this project was that there could be competing demands on beneficiaries' time. The project approach required the beneficiaries to provide all the local labour and materials. A cash-for-work approach helped to address this issue but could not cover the full amount of time required for completion of the work involved.

However, these constraints did not diminish the enthusiasm of the beneficiaries in building 'their' rock catchments. To improve similar projects in the future, additional refresher training and closer involvement of other stakeholders are necessary. To maintain the success of this project in replication, community mobilizers should travel frequently to the field, at least twice a week.

Potential for replication: This project can be easily replicated elsewhere in similar environment, provided that funding is available. In fact, Welthungerhilfe is already replicating this approach in some neighbouring districts in Kenya. However, replication of this project in a different context requires careful assessment of local social, political, and cultural patterns. In scaling up the project the following financial, technical and political constraints should be expected: funding, suitable geological features and availability of technical expertise in remote rural areas (UNISDR, 2008).

(c) Reinforcing beneficiaries' skills in disaster risk management in Senegal (ECA, 2015)

Context: In 2009, floods in Senegal affected nearly 40,000 homes. In some rural areas, the rising waters washed away harvests, seed stocks and crops. Given the urgency, FAO funded and implemented a project aimed at boosting agricultural activities and strengthening the capacity of vulnerable households affected by floods and climate-related hazards in the Saint Louis region in northern Senegal. This initiative was carried out in collaboration with local community leaders and training modules were developed focusing on the link between climate change and food security in the Sahel.

The approach adopted is considered a good practice as it is participatory and because the disaster risk management training sessions, which hinged on promoting resilience and changes in the behaviour of local actors, helped to strengthen the capacity of vulnerable households to react to and cope with climate hazards. The initiative built capacity in the identification and assessment of risk at the community level.

Outcome: The project succeeded in boosting agricultural activities through improved seed distribution and capacity-building/training (train the trainers) of over 60 community leaders, who will train others, and strengthening the capacity of over 2500 vulnerable households to withstand flood hazard risk. It led to the development of contingency plans and examined practical examples of community resilience in the medium and long term.

Success factors and lessons learned: Disaster risk reduction can be mainstreamed into agriculture and land use practices to build local resilience to climate-related hazards. Knowledge, innovation and education can be used to build a culture of safety and resilience at the local level.

Challenges: Local frustrations and scepticism regarding the new initiative being a remedy to perennial displacement and loss of lives, properties and livelihoods.

Potential for replication: The disaster risk management training sessions helped to strengthen the capacity of vulnerable households to react to and cope with climate hazards. The approach and methodology can be easily adopted, especially in the context of capacity-building and sustainability of the livelihoods of vulnerable communities at the local level.

(d) Collaboration between the National Emergency Management Agency and six Nigerian universities to mainstream disaster risk reduction into university curricula (ECA 2015).

Context: Nigeria is periodically affected by various forms of natural and man-made hazards. The dominant natural hazards in Nigeria include floods, landslide, strong winds, heat-waves, desertification and epidemics. Climate change is intensifying the frequency and magnitude of these hazards, particularly, the hydrometeorological hazards. Man-made hazards are also very common and these are often caused by ethnic, political and religious conflicts.

With a low human development index, 68 per cent of the population living below \$1 a day, an under-five mortality rate of 141.9 per 1000 of the population and a poor corruption perception index, as well as recent acts of terrorism, the Nigerian population is highly vulnerable to disasters.

Taking into account the very weak institutions inherent in the country and in the quest to improve human understanding of disaster risk reduction issues, the National Action Plan on Disaster Risk Reduction seeks to build and strengthen human and institutional capacity with a focus on disaster risk reduction. The National Emergency Management Agency has developed a programme of collaborating with six universities selected from each geopolitical zone of the country in order to address hazard risk and build resilience. The centres in the universities undertake postgraduate programmes in disaster risk management/reduction and development studies and award degrees and certificates. In addition, the National Emergency Management Agency, in collaboration with the Nigerian Educational Research and Development Council, took steps to incorporate disaster risk reduction into basic and post-basic education curricula in Nigeria.

This programme is regarded as a good practice, as it continuously ensures the building of capacity while promoting and coordinating research activities related to disaster risk reduction/management along international practices and in line with the priorities of the Hyogo Framework for Action. It enhances awareness on the importance of disaster risk reduction and fulfils some of the mandate of the National Emergency Management Agency.

Outcome: The initiative has improved capacity-building in disaster risk reduction through the promotion and coordination of research activities related to disaster risk reduction/management in Nigeria. Since its inception, about 500 practitioners have been trained and re-trained. This has also led to the organization of international conference on disaster management to improve decision-making and international cooperation. The development of a disaster risk reduction/climate change adaptation curriculum and its integration into four carrier subjects: Geography, English, Civil Education and Health Education in the post-basic curricula has enhanced awareness of the relevance of disaster risk reduction for stakeholders in the educational sector and the importance of increasing capacity in that regard.

Success factors and lessons learned: There must be continuous monitoring and review of the curriculum so as to retain the disaster risk reduction and development elements in the programme. Effective disaster risk reduction mainstreaming into different sectors of the economy cannot be achieved without adequate understanding and partnership with relevant stakeholders in those sectors

Challenges: Disaster risk reduction is still a relatively new approach in the country. As such legislative provisions and the level of awareness of the subject remain quite low. In addition, the capacity for teaching, mentorship and research on disaster risk reduction-related issues is grossly inadequate.

Potential for replication: The programme can and should be replicated in other contexts, particularly as a way to fulfil the mandate of most national and state focal agencies on disaster management by building capacity on, and creating awareness of, disaster risk reduction and its associated activities.

(e) National Emergency Management Agency/World Bank Post-Disaster Need Assessment and Vulnerability Capacity Analysis in Nigeria (ECA 2015)

Context: This initiative was carried out on the heels of the devastating effects of the 2012 flood that affected more than 7.7 million people, destroyed over 618,000 houses and killed more than 363 people, disrupting socioeconomic and livelihood activities. The Government of Nigeria, with technical and financial support from the United Nations, European Union and the World Bank, embarked on an assessment to estimate the impact of the flood, determine recovery and reconstruction needs and formulate a long-term strategy for reducing disaster risks in the future. The assessment covered fifteen sectors of the national economy, including housing, agriculture, transport, education, energy, macroeconomy, gender, health, hydrometeorology, employment and livelihood, environment, disaster risk management and telecommunication.

The National Emergency Management Agency also collaborated with other stakeholders in implementing the Vulnerability and Capacity Analysis (VCA) in six states. The assessment involved detailed and comprehensive analysis of hazards, and population and infrastructural vulnerabilities and capacities and of risks to support mitigation, preparedness and response activities, taking advantage of different institutional mandate and capacities.

The project is regarded as a good practice, as it sought to identify the needs, vulnerabilities and ameliorate the sufferings of disaster victims, develop strategies to mitigate the effects of hazards and facilitate sustainable rehabilitation and recovery of the affected people. The project was participatory and provides guidelines for decision-making and policymaking. It provides an excellent reference document to guild policy-related decision-making and planning. It also improves capacity-building and creates a basis for data and information collection, compilation and sharing.

Outcome: The project improved the knowledge of officials from ministerial departments and agency regarding the assessment methodology. It also enabled the collection of baseline socioeconomic information at federal and state levels and the development of a needs assessment report and strategies to mitigate the effects and recovery of the affected people. The National Emergency Management Agency now has a mechanism for implementing and funding the VCAs nationwide. It enabled about 600 officials, representing Ministries from 36 states and the Federal Capital Territory, to acquire skills in basic emergency preparedness and response planning and in the implementation of the VCA.

Success factors and lessons learned: Both the Post Disaster Needs Assessment and VCA require multisectoral and multi-stakeholder consultations for implementation and a level of commitment from the Government, local political and community leaders, community-based organizations, faith-based organizations and other related local level institutions. There has to be proper administrative and logistic coordination for data collection and processing as well as multilateral collaboration for funding and technical support.

Challenges: There were bottlenecks in apportioning roles and responsibilities as well as in the coordination of the numerous stakeholders to achieve set goals and targets. There were difficulties in securing commitment to funding various aspects of the Post Disaster Needs Assessment by stakeholders. Moreover there were concerns related to the credibility of information collected.

Potential for replication: The initiative was participatory and could serve as a guideline for decision-making on prevention, mitigation, and preparedness; it enables targeted responses and sets the pace for appropriate recovery activities. It can be replicated to prevent disasters and to ensure coordinated response and reconstruction activities.

(f) Inter-sectoral collaboration and heightened education to reduce epidemic mortality in Ghana (ECA 2015)

Context: Northern Ghana, situated in the southern fringes of the Sudano-Sahelian zone, is one of the most deprived areas of the country. It is difficult to establish a clear correlation between poverty incidence and the nature of vegetation cover and rainfall, but the incidence of poverty is highest in the three regions in northern Ghana where climatic and vegetative conditions are harsher. There is also significant weather-induced seasonality in the incidence and prevalence of environmentally related diseases such as the cerebrospinal meningitis, which is most common in the dry season. The worst-affected area in the country in that regard is northern Ghana, where the weather is dry, with over 95 per cent of the 19,598 reported cases and over 1,500 deaths in the latest major outbreak. The National Disaster Management Office, in collaboration with the Ministry of Health and the World Health Organization, worked to improve awareness and increase vaccination education campaigns.

The initiative set out to improve resilience and build a culture of safety through knowledge and education as well as the development of capacity, which is in line with some priorities of the Hyogo Framework for Action.

Outcome: There has been about a 50 per cent increase in the number of people vaccinated and only contained cases of meningitis are now reported, which do not reach disaster proportions.

Success factors and lessons learned: In order to succeed, the initiative requires multisectoral, multi-stakeholder consultations and commitment and multilateral collaboration for funding and technical support.

(g) Good irrigation enhances climate change adaptation and boosts harvest: Mainstreaming livelihood-centred approaches into disaster management in Peru (UNISDR 2008).

Context: The people of the rural centre of Coyllur, in western Peru, are mostly farmers. Farming takes place on steep land, with few attempts to control erosion. Irrigation, where available, is by flooding, with little terracing. Extensive clearance of indigenous vegetation has further destabilized the land. Intense rainfall in the wet season leads to extensive soil erosion, and the destabilized slopes exacerbate landslide risks. The dry season is lengthening, impacting crop yields.

Poor housing and plots in high-risk areas have led many people to migrate from the countryside to the city, seeking employment. Those remaining have adopted increasingly unsustainable farming practices in a desperate bid to survive. There is no local knowledge on steep land cultivation or appropriate irrigation technologies.

Project objectives and approach: In March 2006, Practical Action initiated a project in the area to improve the population's welfare by protecting their livelihoods from weather threats, such as frosts and heat-waves, and earthquakes, floods, landslides and mudslides – all of which had a direct impact on their agriculture-based livelihoods. The project was part of a programme called Mainstreaming livelihood-centred approaches into disaster management, and received funding from the DfID Conflict and Humanitarian Fund.

The main objective of the project was to improve the rural population's welfare by protecting their livelihoods from climate change and disaster impacts, through training and climate change adaptation strategies, including better land management and the introduction of better irrigation techniques.

The project identified the following hazard risks in Coyllur: earthquakes, floods, landslides, thunderstorms, strong winds, weather threats (frosts, heat-waves) and mudslides, which known in the area as *llocllas*. These events are a consequence of both inappropriate farming methods and climate variability, impacting directly on the population's agriculture-based livelihoods.

Direct project beneficiaries were 40 families in Coyllur; indirect beneficiaries were all 130 families in the local community. To run the project, coordination was established with the Mayor, and the chairman and other top leaders of the farmers' community. The project involved developing irrigation systems in two parcels of community land and with three individual families.

Throughout the development of the project, alliances were made with several sectors of government of Huaraz Province, the Ministry of Agriculture through PRONAMACH (the National Watershed Management Programme), and the National University of Santiago, which provided advice and support during the training days.

To help the population, local initiatives have been developed to cope with some of the impacts of climate change and other local risks, such as building fires to ward off frost damage, identifying escape routes in the event of an earthquake, landslide-safe areas for school construction, and mobilizing and training volunteers for search and rescue. A few local initiatives that mitigated disaster risk while also reducing poverty were put in place.

Participatory workshops identified ways to fight against the effects of climate change, reduce the impact of other hazards, and reduce poverty. The population showed their willingness to work in a participatory manner to improve their situation. Community leaders, officials and ordinary men and women came together to learn techniques of irrigation management, pest control, sustainable shifting cultivation and appropriate systems of water use.

Outcome/results: Farmers were initially reluctant to change their habits and customs with respect to planting their crops. However, the project has demonstrated that using low-cost irrigation techniques, prepared with minimal resources, help to make better use of water, increase production, generate higher returns and reduce conflict with neighbouring communities. The irrigation techniques also help to solve problems associated with slope cultivation such as soil erosion, landslides and flooding.

As expensive irrigation technology was beyond local resources, the people combined both sophisticated and common locally available materials to develop appropriate systems. This improved productivity and reduced the people's vulnerability to disasters. At the same time, the people's organizational capacity was strengthened, which is also a key asset in their fight against poverty.

Appropriate irrigation techniques have won the support of local authorities and are now being promoted at district and provincial levels for inclusion in the decentralized participatory budget process.

Good practice: The project is a good practice because: it tackled water shortages, which were a recurrent problem in the area and were exacerbated by poor management and lack of knowledge. The new irrigation techniques contribute to reducing both disaster risk and poverty by improving productivity and reducing the community's vulnerability to disasters.

Key success factors and lessons learned: Key success factors in the project were:

- The involvement of the community in activity planning.
- Their recognition of their problems and identification of alternatives.
- Recognition of existing capacities within the community.
- Relations of trust between the community and Practical Action.
- Technical support in implementing the project.
- Strengthening the local leaders' capacity and legitimizing their leadership during the process.
- A clear vision of a sustainable outcome for the project.

Among key lessons learned from the project are:

- Rural community members are like Thomas in the Bible: for them, 'seeing is believing'. Theory needs to be shown to work in practice otherwise people will not get involved. The community is eager to learn and participate as long as the project provides real and meaningful changes

- Disaster risk management as a concept may not be easy for poor communities to fully grasp at first. However, the linkages between disaster risk management, livelihood protection and economic improvement can be easily understood and accepted.
- It is necessary to understand the local realities. Community knowledge, acquired with experience and over time, must be respected. Community members are the only ones who really know what their resources are. No outside professional or specialist can fully understand the problems of the community and alone propose viable alternatives.

Potential for replication: The project is easy to replicate as long as the starting point is recognition of the local problem affecting the community, followed by a garnering of community will to improve their living conditions. If the context is different but the problems are similar and the population is dependent on agriculture, then the methodology needs to be modified to suit the new context and perhaps invite greater participation from women and young people.

For the sake of more sustainable replication, there is a need to empower the community, incorporate the project into local and regional development plans and translate the plans into concrete projects that improve the living conditions of the poorest (UNISDR, 2008).

(h) ASEAN Agreement on Disaster Management and Emergency Response: Building disaster-resilient nations and safer communities (NTS 2010)

Context: The ASEAN region is prone to natural hazards such as typhoons, floods, forest fires and earthquakes, with significant impacts on communities and on the development of member States and the region overall. In this context disaster management has become one of the priority issues for cooperation among ASEAN members. In pursuit of this priority objective, the ASEAN Agreement on Disaster Management and Emergency Response was signed by the 10 ASEAN member States to promote regional cooperation towards a disaster-resilient ASEAN Community. The Agreement was ratified by all ASEAN member States and entered into force on 24 November 2009.

The Agreement is a regional approach to support ongoing and planned national initiatives of member States and support and complement national capacities and existing work programmes. It provides for regional policies and operational and logistical mechanisms to enable ASEAN member States to seek and extend assistance in times of disaster and carry out collaborative undertakings on disaster mitigation, prevention, preparedness, response, recovery and rehabilitation. While programmes are developed at the regional level, the primary responsibility for the implementation lies with the ASEAN member States.

The ASEAN Agreement on Disaster Management and Emergency Response Work Programme 2010-2015 was developed through a consultative process, and reviewed and approved by the ASEAN Coordinating Centre for Humanitarian Assistance on Disaster Management in March 2010, and approved by the ASEAN Committee on Disaster Management in December 2010, one year after the Agreement entered into force.

The objective of the Agreement is to improve the capacities of ASEAN countries for effective and efficient regional early warning and monitoring, preparedness, emergency response, and disaster risk reduction by putting in place supportive policies, systems, plans, procedures, mechanisms, and institutional and legal frameworks, at both regional and national levels.

The specific objectives are to enhance humanitarian assistance and emergency response coordination; strengthen technical and institutional capacities of member States through the provision of capacity development and training programmes for disaster management, disaster risk reduction, and emergency response; and provide assistance to member States and promote regional collaboration in the mainstreaming of disaster risk reduction into national development policies, plans and sectoral programmes and in formulating and implementing risk reduction measures that link climate change adaptation to sustainable development. Other objectives were to foster closer partnerships and more collaborative initiatives on disaster preparedness and response, disaster risk reduction, and recovery and rehabilitation with partner organizations, international organizations, civil society organizations, academia, military, and United Nations specialized agencies, among others; support community-based approaches in disaster management; and enhance disaster awareness of the peoples in ASEAN in order to instil a culture of safety and resilience.

The agreement has four strategic pillars, namely risk assessment, monitoring and early warning; preparedness and response; prevention and mitigation; and recovery and rehabilitation. The guiding principles are: the institutionalization of AADMER Partnership Group, resource mobilization, information management and communication technologies, outreach and mainstreaming, training and knowledge management implementation, and monitoring and evaluation of the Work Programme.

The responsibility for implementation of the Agreement lies with the ASEAN Secretariat while the newly formed ASEAN Coordinating Centre for Humanitarian Assistance on Disaster Management coordinate humanitarian assistance on disaster management. The Conference of the Parties to the ASEAN Agreement on Disaster Management and Emergency Response (COP) is responsible for developing guidelines for financial rules; including administration of the AADMER Fund (concept paper for AADMER fund). Harmonization of various disaster preparedness initiatives is the responsibility of regional forums, such as the ASEAN Regional Forum and the East Asia Summit.

The ASEAN Regional Forum is the principal platform for regional security dialogue among ASEAN member States and its dialogue partners. It is made up of 27 participating countries, comprising 10 ASEAN member States and 17 dialogue partners. Moreover, the importance of disaster management to countries in the region is also reflected in the annual security outlook submitted by countries to the Forum (ARF, 2008, 2009).

The East Asia Summit is a regional forum currently comprising the 10 ASEAN States plus Australia, China, India, Japan, New Zealand, Russian Federation, South Korea and United States of America. The East Asia Summit recognizes the importance of pursuing the goal of a disaster-resilient region, as can be seen in the Cha-am HuaHin Statement on East Asia Summit Disaster Management, adopted in 2009. In this statement, participating countries agreed to, among other things, provide support to strengthening the disaster management capacity of countries in the region, developing integrated preparedness and

disaster risk reduction capacities for transboundary, multi-hazard disasters, and enhancing the linkages and networks among local, national and regional disaster management agencies, in cooperation with international organizations.

This legally binding agreement at the regional level provides a mechanism for ensuring compliance of member States with regional frameworks. The Agreement also provides a platform for the establishment of the ASEAN Coordinating Centre for Humanitarian Assistance on Disaster Management as the focal point and coordinating structure for regional disaster management efforts. It provides a good foundation for partnerships and collaboration between subregional institutions and member States as well as other cooperating partners.

Outcome: The Agreement provides a common regional approach to mainstreaming and implementation of disaster risk reduction. Through the institutional mechanisms available, opportunities exist for harmonization of disaster risk reduction policies and programmes across the region.

Lessons learned: This agreement marks a shift in ASEAN's disaster management approach from reactive to proactive as it encompasses the whole disaster management cycle, with strong emphasis on disaster risk reduction, based on the Hyogo Framework for Action.

Challenges: Like the African region, the ASEAN Secretariat and the ASEAN Coordinating Centre for Humanitarian Assistance on Disaster Management are constrained by a lack of capacity and resources. Although legally binding, the Agreement does not include any provisions for sanctions. It is only legally binding at the regional level, hence translating this agreement into national and subnational laws and regulations may take years. In spite of these efforts, ASEAN disaster management efforts still remain focused on disaster relief and responses.

Potential for replication: This is a regional approach to capacity-building that has a high potential for replication in Africa. First, it makes a regional framework obligatory and binding complete with provisions for institutional structures. This provides motivation for harmonization of policies and frameworks across the region and the establishment of coordinating institutions, capacity-building and resources mobilization. Africa can also learn from the model of a regional disaster management centre in the context of efforts to establish a regional centre of excellence for disaster risk reduction (NTS Alert, 2010).

(i) Mainstreaming disaster risk reduction into national and sectoral development process: Training Course of the Regional Consultative Committee of (RCC) and developed under the RCC Program of Mainstreaming Disaster Risk Reduction in Asia (ADPC 2009).

Context: The aim of the Course is to build capacity for mainstreaming disaster risk reduction into development policy, planning and implementation. As part the Regional Consultative Committee (RCC) Program of Mainstreaming Disaster Risk Reduction in Asia, the Asian Disaster Preparedness Centre, as the secretariat of the RCC, and with support provided by AusAID, has developed the RCC Training Course on *Mainstreaming disaster risk reduction into national and sector development process*.

The Course is in line with the overall aim of the RCC Program, which is to achieve safe development in RCC member countries with increased community resilience to natural disasters, thus contributing to realizing the Millennium Development Goals.

The goal is to build capacities and enhance understanding among the participants of the importance of mainstreaming disaster risk reduction in the national and sectoral development processes.

Though it has been acknowledged that it is important to build the capacity of all stakeholders, involved in development activities on mainstreaming disaster risk reduction, the target participants of Course are government officials from relevant ministries and departments in RCC member countries, both at the national and subnational level.

The training course comprises five modules. The introductory module addresses the link between disasters and development and provides an overview of mainstreaming disaster risk reduction. Module 1 discusses the concept of disaster risk reduction. Module 2 addresses mainstreaming of disaster risk reduction into development planning. Module 3 focuses on Mainstreaming of disaster risk reduction in sectors (sectoral application). Module 4 provides practical guides on the implementation of mainstreaming.

The Course provides a good model for a capacity-building tool coordinated at the regional level. It underlies the importance of having a regional centre of excellence for disaster risk reduction in Africa.

Outcome: The outcomes of training include increased awareness among participants on the need to mainstream disaster risk reduction into national and sectoral policies, plans and programmes and enhanced capacities to mainstream disaster risk reduction concerns into the plans and programmes of their ministries/departments, as well as use the mainstreaming tools in the daily work of those bodies. There was also increased understanding and operational skills among participants with regard to establishing/strengthening inter-ministerial/interdepartmental partnerships for mainstreaming disaster risk reduction into their development work including working with the private sector; and capacity was created among participants to undertake advocacy and awareness-raising on mainstreaming disaster risk reduction into development based on local needs.

Potential for replication: Capacity-building is one of the priority challenges in disaster risk reduction in Africa. The ASEAN approach provides a model for a regional approach that can be replicated. This will require the identification and establishment of regional centre for disaster risk reduction that assumes the responsibility for developing and running such programmes. This Course can be adopted by the African Union as a capacity-building approach.

**(j) Supporting communities affected by river erosion in Bangladesh:
Linking disaster risk reduction and poverty reduction (UNISDR 2008).**

Context: Natural hazards, vulnerability and people's suffering are a part of life in Gaibandha, one of Bangladesh's most disaster-prone districts. The district's remoteness and the complexity of its problems result in social marginalization, child labour, exploitation, child marriage, early pregnancies and human rights violations. Ill health, malnutrition and

mortality rates are high among women and children. Men migrate to other areas in search of employment, leaving women and children at home more vulnerable.

Project objectives and approach: In 2004, Practical Action Bangladesh initiated a five-year alternative risk reduction and management project to address disaster and development issues, particularly among disadvantaged communities living on the edge of mighty rivers. The initiative focused on extremely vulnerable communities affected by river erosion and flooding in Gaibandha District, north-eastern Bangladesh. Initiated on 1st April 2004 and continuing until March 2009, the project also sought to develop a sustainable model for replication in other parts of the country.

The project aimed to reduce the vulnerability of men, women and children to the physical, social, economic and political effects of river erosion, flooding and other natural hazards over the five-year project with the following objectives:

- Poor women, men and children living on vulnerable riverbank lands are better prepared to withstand the impact of recurrent natural hazards.
- People displaced by river erosion have access to basic services (food, shelter, water, health and education) through the development of cluster villages and multi-purpose shelters.
- People displaced or at risk of being displaced by river erosion, have alternative livelihood options (i.e. new income-earning opportunities).
- Improved social, civil and political rights for disadvantaged men, women and children affected by river erosion and regular flooding.

The project targeted over 20,000 households. This amounted to some 100,000 direct beneficiaries and over 500,000 indirect beneficiaries. Over 67 per cent of them were women in the northern district of Gaibandha. The four highly disaster-prone sub-districts are: Gaibandha Sadar, Sunderganj, Shaghata and Fulchari.

Five local partners, along with a Practical Action Bangladesh expert panel, were involved in implementing the project on the ground. The project was supervised by Practical Action Bangladesh in direct collaboration with five local NGOs, and linked with relevant government departments and administrative bodies.

Outcomes: The project successfully built the alternative livelihood skill capacity of over 20,000 targeted households. Systematic monitoring, evaluation and impact assessment showed that the livelihood patterns, access to basic services, food consumption and average incomes for the beneficiaries have changed very rapidly. Since 2004, the average income has risen from below \$300 to \$450 (where \$1,570 is the highest for agro-processing households). Resource-poor and vulnerable communities now have access to common property, particularly to public water bodies and sand bar islands.

Furthermore, the project has identified and explored a number of new technological options, including: floating vegetable gardening; crop production in barren sand bars through pit cultivation techniques; cage aquaculture; a community-based cold protection mechanism; integrated model housing through cluster villages and multi-purpose shelter development;

community-based extension system; and a community-managed rapid evacuation system throughout the project areas (over 1,600 km²). The project has also generated over 100,000 days of work for unemployed rural men, women and young people.

Based on its impacts and visibility, the project was awarded a Gold Prize of the Asia-Pacific Forum for Environment and Development Award in 2007.

In combining disaster risk reduction with poverty reduction, the project has used comprehensive disaster risk reduction strategies, shifting relief-dependent attitudes towards long-term disaster risk reduction, management and planning. . The major risk reduction and livelihood strategies and outputs were:

- Providing access to improved livelihood knowledge, skills and information through capacity-building training and demonstrations of off-farm- and on-farm-based technologies, including flood-friendly agriculture, fisheries and livestock resource management.
- Developing infrastructure services and facilities such as multi-purpose shelters, cluster villages, community clinics, schools, safe water and sanitation.
- Establishing community-based early warning and rapid evacuation systems.
- Ensuring better access to common property resources, and to social, civil and political rights. Influencing policy makers to recognise successful practices for national and international dissemination.

Good practice: The project can be described as good practice because it has developed a very effective risk reduction and management model, as well as a number of innovative pro-poor-based natural resource management technologies. The project also developed innovative ideas and models on risk reduction and management, climate change adaptation and natural resource management issues. These ideas, innovations, knowledge and learning were developed through a participatory process involving all relevant stakeholders. This approach strongly motivated community members, policymakers, development practitioners, donors and other stakeholders at local, national and international levels. The project also influenced the development of a new policy for poor people living on the edge of large rivers in Bangladesh.

Success factors and lessons learned: Key lessons learned from the project are:

- Participatory plans and community-driven approaches are of the utmost importance for achieving objectives and goals.
- Adequate technical and social knowledge and skills are necessary for overcoming challenges.
- An integrated development approach is needed for tackling complex situations involving poverty and disaster risk.
- Adequate administrative support is needed to meet targets on ground.
- Equal participation of stakeholders is needed to achieve goals.

Challenges: The major challenge for this project was how to secure enough funding to replicate the above ideas and reinforce existing knowledge. To improve similar projects, donors and development partners need work jointly with the Government, with donors providing the resources, while the Government mobilizes communities and provides an enabling environment through administrative support and the establishment of participatory structures and mechanisms.

Potential for replication: The project has initiated a very comprehensive disaster risk and poverty reduction strategy, aiming to develop a sustainable model for replication in other parts of Bangladesh, particularly among disadvantaged communities living on the edge of large rivers. Replication could be easily achieved in other parts of the country and other regions with minor adjustments in approach to fit the context and situation, provided that funding is available and relevant policies are in place (UNISDR, 2008).

**(k) Integrating disaster risk reduction into urban development:
Reducing risk in poor urban areas to protect shelters, hard-won assets and livelihoods in India (UNISDR 2008).**

Context: In two low-income migrant worker neighbourhoods of New Delhi, the socioeconomic status of the residents makes them highly vulnerable to floods and frequent fires. This is due to the nature of their housing materials, and their inability to live in less vulnerable areas. In the hot summer season, fires destroy their shelters and assets, locking them into a cycle of poverty.

Half of India is projected to live in cities in the coming decades, and four fifths of people in India's megacities live in sub-standard conditions, subject to poverty and disaster risks. Although the communities were technically wealthier than they had been in their rural areas, the frequent fires entrenched them in chronic poverty. Basic survival priorities meant that they had been unable to address their vulnerability to disasters.

Objectives and approach: To help minimize and manage risks in the two neighbourhoods, a three-year project was implemented between April 1997 and March 2000 by SEEDS India, to help the residents design and commission a community fire post. The fire post provided better fire safety for the entire community. The project addressed urban risk – an issue that is often ignored despite its great threat to the future of the developing world.

The main objective of the project was to integrate risk reduction into urban development. The focus was on making the lives and livelihoods of low-income vulnerable urban communities safer. Risk from recurring disasters is a major source of urban poverty, and measures are needed to reduce poverty through risk reduction.

The project, which targeted approximately 1000 households in each neighbourhood, was funded by the United Kingdom Department for International Development and implemented by the following institutions: SEEDS India, the Indian Institute of Public Administration, the National Centre for Disaster Management, the Centre for Development and Emergency Practice, Oxford Brookes University, and the Oxford Centre for Disaster Studies. Public institutions, such as the Indian Institute of Public Administration, served as a bridge between the community and government agencies. SEEDS India facilitated the process.

To help minimize and manage risks, the SEEDS project used its action planning methodology to help the community to identify and articulate the risks to which they were. Action planning helps communities develop small pilot projects that they can implement with limited funds, to lower risks in their areas. The SEEDS project helped the community to design and successfully commission a community fire post, which improved fire safety for the whole community. Local community leaders were involved in the project as primary stakeholders, and community workshops were held with their support.

Outcomes: The project serves as a good demonstration of a community-led effort that helped protect the neighbourhood residents' shelters, their most precious assets and savings and, in some cases, their lives. Their reduced vulnerability helped them to gradually increase their savings and convert their temporary squatter houses into permanent dwellings.

The three-year project contributed to poverty reduction by helping to protect shelters, hard-won assets and livelihoods against recurrent disasters such as frequent fires; promoting education and public health to improve income generation capabilities; and successfully advocating risk reduction at a national policy level.

Good practice: The project can be described as a good practice because the community involved was able to successfully identify the key risk to their livelihoods and assets, and to successfully design and implement a practical solution for reducing risk. This was achieved through a participatory process involving local leaders and communities using action planning methodology. The fire post that was commissioned ensured that trained local residents could extinguish any small fire that could threaten to destroy their entire settlement.

Success factors and lessons learned: A key success factor of the project was that the community was able to prepare its own risk reduction plans and implement them with minimal external assistance, with technical support from donors and educational institutions. Mechanisms were put in place that facilitated interaction between the community and government authorities.

Key lessons learned from the project were:

- For poor communities, security of their livelihoods is equally important as the safety of their lives.
- Poor communities do have in-built strengths that can help them address their problems, requiring very limited external facilitation.
- Similar projects should be promoted and scaled up to the extent that they cross the critical thresholds of scale and begin to influence how entire cities function. Pilot projects need to be converted into norms, and traditional planning systems need to be challenged.

Challenges: The major challenge for this project was linking micro-planning with macro-level plans during the project's implementation. This challenge could be met by involving State level stakeholders throughout the process.

Potential for replication: The solution of building community fire posts as a preventive measure against fires is easily replicable. However, the community concerned needs to own and drive the process. In the SEEDS project described above, the community

volunteered to train themselves in the use of such fire posts, as and when necessary.

In a practical sense, this initiative can be easily replicated in another context because the community fire post was only a semi-permanent structure, as it was built in an area where public land was 'illegally occupied' by low-income migrants.

To scale up the project, however, some economic and political constraints should be dealt with beforehand; for example, such a project can potentially invite objections from public authorities that are not yet aware of the issues. Another potential constraint would be to create the political will needed to replicate such an empowering model on a wide scale (UNISDR, 2008).

Chapter 6: Conclusions and recommendations

6.1 Conclusions

Disasters are increasing in number, frequency and severity in Africa because of escalation of hazards such as droughts, floods, storms, wildfires and cyclones. While 181 climate-related disasters were recorded in 1970, the number more than tripled to 627 in 2012. These hazards are predicted to increase with climate change, which will further worsen the incidence of associated disasters in the region. In addition to disasters related to hydrometeorological events, various parts of the Africa region also experience geological hazards such as earthquakes and volcanoes. While there has been drastic reduction in deaths resulting from disasters in the last four decades, economic loss from disaster damage has remained high.

The analysis reveals that although Africa has made steady progress across a broad front, spanning economic growth, social development and democratization, development of human capital and fostering peace and stability, it remains highly vulnerable to disasters.

Africa's vulnerability to disasters is driven by poverty and low levels of socioeconomic development, with associated characteristics such as hunger, environment and land degradation, poor social and economic infrastructure, poor health status and poor urban development.

Vulnerability to climate change is aggravated by the dependence of majority of its population on environmental and natural resources. When weather conditions change, the adverse impact on livelihoods is felt immediately and directly. Lack of economic diversification and the absence of insurance systems make it difficult for communities to cushion themselves against the effects of climate change. African populations also lack the robust coping mechanisms and safety nets to deal with the impact of extreme weather events.

Africa's progress in many areas, particularly in terms of economic growth, is mitigated by high level of vulnerability to disasters. Rapid economic growth and overall development will contribute much towards building resilience and reducing the disaster burden and impact of climate change. At the same time, however, these developments will need to be protected by the integration of disaster risk reduction measures into Africa's growth and development strategies. Addressing poverty will continue to be the number one priority in the development agenda. This will go a long way in building the resilience of vulnerable populations to natural disasters. This is indeed the core of the disaster risk reduction mainstreaming agenda – building the resilience of nations and communities and protecting development gains.

There has been considerable progress towards the institutionalization and mainstreaming of disaster risk reduction. At regional and subregional levels, frameworks, policies, strategies and in some case plans have been developed which provide the environment for mainstreaming. In some regional economic communities, sectoral policies and frameworks in the areas of environment, agriculture and health already integrated disaster risk reduction concerns. Some of this mainstreaming has taken place as part of routine implementation of institutional mandates, while in some cases mainstreaming has been consciously included in response to the guidance of global and regional frameworks. However, implementation has remained a challenge due to institutional capacity.

At the national level however, the picture remains gloomy. Less than 50 per cent of Africa's 54 countries have either legislation or a policy relating to disaster risk management. Of those who have, the majority continue to focus on disaster preparedness and response, rather than disaster risk reduction, demonstrating a very slow paradigm shift towards disaster risk reduction.

At regional, subregional and national levels, institutional capacity remains a major challenge and therefore a priority. This means that the many tools for mainstreaming have not been taken advantage of.

Nevertheless, despite the considerable progress in development of strategic frameworks and the existence of variety of tools and some good practices for mainstreaming disaster risk reduction, the overall conclusion from the review is that disaster risk reduction integration/mainstreaming across Africa has not been significant. The main gaps and challenges to mainstreaming include lack of political commitment, insufficient awareness and understanding of global and regional disaster risk reduction frameworks, weak institutional capacity of disaster risk reduction structures at all levels and weak coordination mechanisms. A number of tools and methodologies including guidelines for disaster risk reduction mainstreaming are available. However, there is limited awareness of these tools and most have not been put to use at subregional and national levels. There has also been a paradigm shift from reactive emergency preparedness mode toward a proactive disaster risk reduction approach. As most countries resource limited and budget constrained, allocating resources to disaster risk reduction is not a priority. In light of the eagerness and enthusiasm of humanitarian agencies to come to the aid of countries in disaster distress, there is little incentive to act. Moreover, in Africa, disasters are mainly the slow-onset type, and most do not require too much urgency.

Many opportunities nevertheless exist for mainstreaming at regional and subregional levels, through development frameworks, sectoral frameworks and partnerships.

6.2 Recommendations

The following recommendations are aimed at achieving enhanced mainstreaming of disaster risk reduction into development frameworks and ensuring effective implementation of risk reduction and disaster management measures at regional, subregional and national levels. These recommendations are based on the findings in the report and incorporate those agreed upon at the pre-conference event on disaster risk reduction mainstreaming, jointly sponsored by ECA, UNDP and UNISDR and held in the lead-up to the Fifth Africa Regional Platform for Disaster Risk Reduction, which took place in Abuja, Nigeria, in May 2014.

6.2.1 Human, institutional and regulatory capacity for disaster risk reduction in Africa

Capacity to develop, coordinate and achieve effective implementation of disaster risk reduction policies, legislation and programmes at the various levels should be strengthened. Such capacity should include the capability to harmonize these frameworks with those at regional and subregional levels, where applicable.

Institutional capacity for disaster risk reduction mainstreaming should be strengthened at all levels. The following need to be undertaken in this regard:

- (i) Tailored capacity development programmes, including training on disaster risk reduction mainstreaming and investment, for government departments in charge of planning and disaster risk reduction, and other sectoral institutions/agencies, the private sector, and NGOs should be developed and implemented;
- (ii) The development and use of disaster risk reduction mainstreaming guidelines, tools and methodologies should be strengthened and scaled up through targeted and results-oriented initiatives. In this regard, the African Union Commission and the NEPAD Planning and Coordinating Agency, in partnership with regional economic communities, should raise awareness on and make the existing disaster risk reduction mainstreaming guidelines readily available. Such guidelines include Guidelines for mainstreaming risk assessment into development in Africa (African Union/UNISDR, 2004). The African Union Commission should partner with the African Development Bank and United Nations agencies to help regional economic communities and member States to adapt and apply these guidelines for disaster risk reduction mainstreaming at subregional, national and subnational levels. Such support should involve awareness-raising and skills development, taking into account good practices on disaster risk reduction mainstreaming and implementation;
- (iii) Disaster risk assessment and profiling and strategic information management and dissemination for disaster risk reduction mainstreaming should be strengthened, with special attention paid to key sectors.

6.2.2 Integrating disaster risk reduction and climate change adaptation

Disaster risk reduction and climate change adaptation should be undertaken in an integrated and coordinated manner to facilitate coherent actions and facilitate disbursement of resources for enhancing resilience of highly vulnerable groups and priority sectors. In this context, strong emphasis should be placed on promoting institutional frameworks that are adapted to the implementation requirements of disaster risk reduction and climate change adaptation policies. The creation of national agencies in countries such as Ghana and Nigeria could serve as models.

6.2.3 Information management and early warning systems

Strategic disaster risk reduction data centres should be established and strengthened to enhance collection, management and accessibility of disaster risk reduction information at the subregional and national levels. This is crucial to addressing the recurrent challenges in accessing disaster risk information and taking timely response.

A regional early warning system should be established and national and subregional systems should be strengthened. Moreover, mechanisms for sharing information and exchange of early warnings between meteorological services and disaster risk reduction agencies and experts should be established and strengthened. This would ensure that

appropriate alerts are made to prevent, mitigate and ensure adequate disaster preparedness in the subregion.

6.2.4 Disaster risk reduction financing and investments

Mechanisms for disaster risk reduction investment by the private and public sector, public-private partnerships, and development partners should be strengthened and operationalized at all levels in order to increase the mobilization and allocation of funding for disaster risk reduction and response. The following should be specifically undertaken:

- (i) Planning and budgeting guidelines at the regional, subregional and national level as well as for sectors should incorporate criteria for disaster risk reduction measures and funding. Moreover, monitoring and tracking of disaster risk reduction investments, including through use of specific tools, should be strengthened;
- (ii) Governments should meet their commitments to allocate a percentage of their national budgets to disaster risk reduction;
- (iii) Funds for climate change mitigation and adaptation, the green economy, sustainable development or the environment at regional, subregional and national levels should integrate and prioritize funding for disaster risk reduction;
- (iv) Disaster risk reduction and its financing should be integrated into foreign direct investment guidelines and ventures, and development cooperation frameworks, particularly for disaster prone sectors and areas;
- (v) A regional and subregional resource mobilization approach should be established and promoted to deal with transboundary risks and disasters, rather than individual approaches by countries or donors. Such an approach will enhance the coordination, efficiency and timeliness of interventions.

6.2.5 Disaster risk reduction governance and accountability

Disaster risk reduction governance and accountability should be strengthened at the regional level through rationalization of various structures dealing with disaster risk reduction, humanitarian action and conflict. Organizations or agencies responsible for disaster risk reduction should be provided with sufficient authority, including through strong legislative backing and proper placement in the hierarchy of government or other organizational systems. This is vital to enable these bodies to effectively coordinate disaster risk reduction interventions.

Disaster risk reduction plans should be developed as integral priorities of key African Union-led frameworks including Agenda 2063, the African Peer Review Mechanism, PIDA, AIDA, and the Africa Mining Vision. Given their crucial role in shaping subregional and national development agendas inclusion of disaster risk reduction in these frameworks will inspire replication of efforts at lower levels.

Subregional and national platforms should be established and/or strengthened and there should be increased advocacy, coordination and integration of disaster risk reduction across various sectors. Moreover, subnational platforms or multi-stakeholder forums should be established and strengthened. Such forums are particularly crucial for municipalities and other urban centres, which are expanding in all the countries in the region.

The post-2015 development agenda and the successor of the Hyogo Framework for Action should incorporate performance targets and indicators on disaster risk reduction in order to promote concrete actions and ensure the transparency and accountability of all stakeholders. To that end, transparent mechanisms for monitoring, evaluating and reporting performance should be strengthened.

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ANNEXES

Annex 1: List of institutions and persons consulted

African Union Commission:

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7. Ibrahim Dia, Department of Social Affairs

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8. Dominique Kuitsouc, Disaster Risk Reduction and Climate Change Expert

Economic Community of West African States (ECOWAS):

9. Mohammed Ibrahim, Head of Disaster Risk reduction Division, Department of
10. Dieudonne Nikieme, ECOWAS Peace Fund
11. James Akujobi, Director, Disaster Risk Reduction, NEMA

Southern Africa Development Community (SADC):

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13. Ms Segametsi Moatlhaping, Liaison Expert, SADC disaster risk reduction Unit
14. Mr. Blessing Siwela, Information Management Officer, SADC disaster risk reduction Unit
15. Haresebe Mahosi. Head of Civilian Component -Planning Element, SADC Secretariat
16. Brig. General Paulo M.M Francisco, Chief of Staff, Military Component, Directorate OPDS
17. Bradwell J. Garanganga, Coordinator, SADC Climate Change Services

18. Martin T. Muchero, RAP Technical Coordinator, Food, Agriculture and Natural Resources
19. Dr. Nsedise Fake Dieudonne, Programme Officer, Climate Expert
20. Sentry p. Chaura, Senior Programme Officer, Food Security
21. Phera Ramoeli, Senior Programme Officer, Water, Directorate of Infrastructure and Service
22. Manuel Matenda Lutango, Mission Support Officer. Civilian Component, PLANEM, OPDS
23. Duncan Samikwa, Project Coordinator, SADC Regional Vulnerability Assessment Programme.
24. Mukundi Mutasa, Programme Officer, Research, Information and Documentation, Gender
25. Jacinta M. Hofnie, Programme Officer, Human Trafficking, UN Agents and Partners (SADC)
26. Mr. Ignacio Leon-Garcia, Head, Regional Office for Southern Africa, Johannesburg
27. Mario Samaja, FAO, Senior Coordinator. Regional Disaster Risk Reduction and Management Office for Southern Africa <mairo.semaja@fao.org>

International Federation of Red Cross and Red Crescent Societies (SADC):

28. Stanley Ndhlovu, Regional Disaster Management Coordinator
29. Maemi Heita, Regional Disaster Risk Management Coordinator for Southern Africa, Gaborone

Annex 2: Questionnaire

Subregional assessment of mainstreaming of disaster risk reduction for the Regional Synthesis Report and Best Practices in Mainstreaming and Implementation of Disaster Risk Reduction Measures in Africa

Introduction

The United Nations Economic Commission for Africa (ECA), together with the United Nations Inter-Agency Secretariat of the International Strategy for Disaster Reduction (UNISDR), is implementing a project entitled “*Strengthening Capacities of African Policymakers to Mainstream Natural Disaster Risk Reduction into National and Regional Development Policies and Strategies in Africa*” with funding from the United Nations Development Account. The objective of the project is to strengthen the capacities of relevant regional, subregional and national entities to mainstream disaster risk reduction into corresponding development strategies to contribute to meeting the Millennium Development Goals and the attainment of sustainable development goals in Africa.

In addition to the two subregional studies (ECOWAS and SADC) and four country studies (Malawi, Mozambique, Nigeria and Togo) already undertaken, the project has a regional dimension, aimed at producing a regional synthesis report, which includes a comprehensive assessment, analysis and presentation of good practices, tools and guidelines for disaster risk vulnerability assessment, and the mainstreaming and implementation of disaster risk reduction interventions as integral components of selected key regional and subregional development strategies, plans and programmes. The Consultant, Mr. Ron Cadribo, has been tasked with producing the regional synthesis report.

This questionnaire is designed to assist in assessing the status of mainstreaming and implementation of disaster risk reduction in the regional economic communities and identifying the mainstreaming tools being used. It should also provide an opportunity for highlighting some of the best practices in mainstreaming.

The information gathered will help to provide a more comprehensive view of the implementation of disaster risk reduction across all the regions of Africa.

We would therefore be grateful if you could take some time to complete this questionnaire.

Completed questionnaires should be sent to:

Ron Cadribo: arcadribo@gmail.com

Copy to: Charles Akol: cakol@uneca.org

1. INTERGATION OF DISASTER RISK REDUCTION INTO REGIONAL POLICY FRAMEWORK AND STRATEGIES

Identify the Key Regional Constitutive or Governing Instruments and indicate by YES or NO whether disaster risk reduction (DRR) issues are integrated³. Under remarks, please provide additional information, where applicable on DRR objectives and measures to ensure DRR.

	Framework	Yes	No	Remarks
1.1	The Constitution or Constitutive Act			
	Title:			
1.2	Regional Development Framework			
	Title:			
1.3	Regional Strategy			
	Title:			
1.4	Regional Strategic Action Plan			
	Title			

2. DISASTER RISK MANAGEMENT

Does your sub-regional organization have any of the following instruments dealing with or integrating disaster risk reduction? Under remarks, please provide additional information, where applicable on DRR objectives and measures to ensure DRR.

	TYPE OF INSTRUMENT	YES	NO	Remarks
2.1	Disaster Risk Reduction/ Management policy			
	Disaster risk reduction/ management strategy			
	Disaster risk reduction/management plan			
2.2	Climate Change Strategy			
	a. Does the Climate Change Strategy integrate disaster risk reduction			
	b. Indicate any synergies if any between the climate change strategy and disaster risk reduction			
2.3	Environment Policy			
	a. Does the policy integrated disaster risk reduction issues			

³Integration here means whether the instrument identifies disasters or disaster risk reduction issues a challenge and therefore considers it as a policy or strategic issue and the specific objectives/measures identified for disaster risk reduction/management

	b. Indicate any synergies between the environment policy and disaster risk reduction			
2.4	Agreements, Protocols and or any other instruments that address cross-border Disasters			
	Please list and particulars of instruments			

Coordination and Management Structures/Mechanism

3. MAINSTREAMING OF DRR INTO SECTORIAL FRAMEWORKS

Identify existing sectoral frameworks and indicate by YES or NO if DRR is integrated. Under remarks, please provide additional information, where applicable on DRR objectives and measures to ensure DRR.

	Sector	Yes	No	Remarks
	Agriculture			
	Industry			
	Transport			
	Energy			
b.	Education			
c.	Health			
d.	Water			
e.	Other: Please list			

4. INSTITUTIONAL STRUCTURES AND MECHANISM

Does your sub-regional regional organization have any of the following structures or mechanisms? Under remarks provide the additional information required.

	Institutional structure/mechanism	Yes	No	
4.1	Organization/ Department or Unit dealing with Disaster and Humanitarian Affairs Please indicate department or commission where it is placed.			
4.2	Regional /subregional Platform / or Coordinating Mechanism that brings together various stakeholders for Disaster Risk Reduction			
	a. To what extent is the membership representative of all stakeholders			
	b. To what extent is it a forum for mainstreaming of disaster risk reduction into various sectors			
4.3	Regional Early Warning System for Natural Disasters			
	Please provide brief description			

4.4	Organizations/ Institutions providing Climate Prediction and Application Services.			
	Other: Please name and give a brief description			

5. ASSESSMENT

5.1 Best Practices success factors and lessons learned

Please identify and give a brief description of any good practice used in mainstreaming and implementation of disaster risk reduction interventions in the region/subregion or organization. This description could include name/title of practice including approaches, tools, guidelines and methodologies; partners involved; main attributes of the practice; results achieved; the success factors; challenges and lessons learned the good practice could be an intervention at regional, subregional, national or subnational/community level).

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5.2 Challenges, constraints and remedial measures/action to achieve effective DRR mainstreaming and implementation

Give a brief description of the main challenges and gaps in the mainstreaming and implementation of disaster risk reduction in the region/subregion and highlight how these could be addressed.

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6. REFERENCE DOCUMENTS AND RESOURCES

Please list below and attach where applicable the main documents/sources containing additional information on the above and other areas on DRR and development.

7. CONTACT INFORMATION ON PERSON COMPLETING THE QUESTIONNAIRE

Title (Dr./Mr./Mrs./Ms.)	
First Name	
Last Name	
Designation/Job Title	
Organization/Institution	
Address	
Telephone number	
Fax number	
Email address	
Website of organization	
Country	
Date of completion	

THANK YOU FOR YOUR EFFORTS.

Annex 3: Guidelines and Tools for Mainstreaming Disaster Risk Reduction

A number of organizations and institutions have developed tools and guidelines to assist governments and organizations to mainstream disaster risk reduction. Though some of them target development agencies, the principles, tools and approaches can be of use to all organizations with mandates and responsibilities for disaster risk reduction including governments, local authorities and NGOs. Brief outlines of the key elements of the following guidelines are provided below:

1. United Nations Development Group, 2009: Integrating Disaster Risk Reduction into the Common Country Assessment and United Nations Development Assistance Framework: A guide for United Nations Country Teams
2. UNISDR: Words into Action: a guide to implementing the Hyogo Framework for Action
3. African Union/UNISDR, 2004: Guidelines for mainstreaming risk assessment into development
4. ProVention Consortium: Tools for Mainstreaming Disaster Risk Reduction: Guidance Notes for Development Organisations
5. Tearfund: Mainstreaming Disaster Risk Reduction: A tool for development organisations
6. Asian Disaster Preparedness Center: Integrating Disaster Risk Management into the Development Process: Disaster Risk Reduction Practitioner's Handbook
7. Mainstreaming Disaster Risk Reduction into National and Sectoral Development Process: Training Course of the Regional Consultative Committee on Disaster Management (RCC) developed under the RCC Program of Mainstreaming Disaster Risk Reduction into Development in Asia.

Annex 3A: United Nations Development Group: Integrating Disaster Risk Reduction into the Common Country Assessment and United Nations Development Assistance Framework: A guide for United Nations Country Teams (www.undg.org)

The purpose of the Guidelines is to provide step-by-step advice, including links to resources, on how to integrate disaster risk reduction into the process of preparing, formulating, and monitoring and evaluating Common Country Assessments (CCAs)/United Nations Development Assistance Frameworks. (UNDAFs) The guidance note complements, and is to be read in conjunction with, the *CCA/UNDAF Guidelines*. It may also be of use to the wider development community when undertaking comprehensive development assessment, planning, programme management, and monitoring and evaluation.

The document focuses on disasters caused by vulnerability to natural hazards rather than those related to conflict or civil unrest. Because of the close relationship between climate change and disaster risk and the fact that disaster risk reduction is an essential element of climate change adaptation, the guidance note is also deemed helpful to United Nations Country Teams wishing to address climate change impacts in their analyses and

future plans. It will also be useful for those teams dealing with related risks, such as food insecurity and technological risk.

The guidance note identifies critical steps for integrating disaster risk reduction into the analytical and strategic planning process and will help UNCTs to:

Analyse disaster risk: including the root causes of disasters and why and how they are likely to affect sectors, assets and communities. This should include assessment of hazards, elements exposed to those hazards (i.e. sectors, assets and communities) and the factors that influence vulnerability of those elements. In particular the document highlights the need to consider how the trends and patterns of hazards and vulnerability are likely to be affected by **climate variability and change**.

Review how disaster risk interacts with development: examine the two-way relationship between disasters and development looking at how critical sectors of development are likely to be affected by disasters and, conversely, how disaster risk can be exacerbated or reduced by development actions.

Examine national capacities and risk reduction options: examine existing capacities of relevant actors at all levels to better protect lives, livelihoods and assets.

Identify priorities for intervention: based on identified needs, government priorities, the comparative advantage of United Nations Country Teams and planned activities of other development partners.

Agree on the most appropriate areas for United Nations Country Team support: review the value added of resident and non-resident United Nations agencies in terms of disaster risk reduction. This involves effective prioritisation of short, medium and long-term deliverables.

Include disaster risk reduction as an integral part of the UNDAF monitoring and evaluation process.

The guidance note is structured as follows:

Introduction provides an overview of the relationship between disasters and development and outlines the key international commitments to disaster risk reduction.

Part 1 describes how disaster risk reduction relates to the CCA/UNDAF key principles for engagement.

Part 2 explains how disaster risk reduction can be effectively captured in strategic country level analysis for development planning (including in the CCA, if one is undertaken).

Part 3 explains how disaster risk reduction can be incorporated into the preparation of the UNDAF, including a reflection on whether disaster risk reduction should be considered as a cross-cutting area, a separate pillar or a combination of the two.

Part 4 provides an indication of effective monitoring and evaluation of disaster risk reduction efforts. The document also considers how disaster risk reduction relates to the

interrelated principles of human rights, gender equality, environmental sustainability and capacity development. A number of **Annexes** are included. These are substantive, providing helpful additional advice and practical examples.

Annex 3B: UNISDR: Words into Action: a guide to implementing the Hyogo Framework for Action (www.unisdr.org/www.preventionweb.net)

The Guide was created to provide advice on useful strategies for implementing the Hyogo Framework for Action. It represents a distillation of the wealth of experience that exists throughout the world on how to manage and reduce disaster risks. The Guide was designed to help States to assess where they stand in the implementation process and, by building on existing experience and structures, to identify possible gaps and useful next steps to take. It does not attempt to cover all risks, nor all elements of disaster risk reduction. Some sections outline basic points and processes for disaster risk reduction, while others describe more complex tasks.

Because States have the primary responsibility for disaster risk reduction, the Guide's target audience is national governments and their subsidiary local governments, including decision-makers, leaders and practitioners, and other civil servants. In addition it is expected that the Guide will be of interest to a diverse audience and may be used at different levels for a variety of purposes, such as by leaders and representatives of specific sectors, civil society organizations, community organizations, the private sector, academia, international and regional organizations, and others working to reduce disaster risks.

The inter-agency secretariat for the International Strategy for Disaster Risk Reduction compiled this Guide in response to paragraph 33 (b) of the Hyogo Framework for Action, which requests that the ISDR system "to support the implementation of this Framework for Action, identify gaps in implementation, and facilitate consultative processes to develop guidelines and policy tools for each priority area." The Guide was developed through extensive consultation with key actors in disaster risk reduction, including partner agencies and experts, national platforms and regional agencies.

Structure and use of the Guide

The Guide comprises the introduction, five chapters of specific recommended tasks, and a set of supporting annexes. The introduction outlines the origins and aims of the Guide along with additional orienting information. The main chapters of the Guide, one for each of the five Priorities for Action of the Hyogo Framework for Action, contain a set of 22 suggested tasks, with each task addressing a primary area of effort for implementing disaster risk reduction. Practical step-by-step advice on how to accomplish the task is provided. Illustrative examples from around the world are listed, along with links to supplemental sources of information and definitions of key terms.

Because countries are at different stages of disaster risk reduction and implementation of the Hyogo Framework for Action, the Guide's tasks are presented in a semi-independent form, so that users can choose and pursue the particular tasks that are most appropriate for their own circumstances and priorities. While each task is considered to be largely self-contained, the guideline makes linkages with other tasks, and notes are provided on these linkages, and on how work done for one task may aid completion of another. It is noted that, although most of the tasks do not need to be conducted in a sequential order, it is important to

first organize the implementation of the tasks of Priority 1, since this provides the foundation for other tasks by securing political and institutional backing from governments and leaders.

As much work needs to be done to fully implement the Hyogo Framework for Action, it is recognized that there will be many paths that lead toward this goal. The proposed 22 tasks in the Guide do not claim to cover every requirement, but instead have been selected as primary areas where achievements in disaster risk reduction can be particularly beneficial. In all cases, users are encouraged to take from the Guide what is useful in their national contexts, and to apply the general concepts and measures presented as they may fit their existing policies and systems.

Several annexes at the end of the Guide provide additional supporting information. They include a consolidated set of indicators to measure progress on the five Priorities for Action, useful references, a summary chart of the Hyogo Framework for Action, a diagram outlining a conceptual framework for understanding the work of disaster risk reduction and a comprehensive list of terminology.

Guiding principles for implementing disaster risk reduction

The Guide presents a set of guiding principles based on past experience in disaster risk reduction; these principles underpin or facilitate the achievement of effective disaster risk reduction. The following principles are offered as guidance for the users of the Guide. Many of them are explicitly recognized and emphasized in the Hyogo Framework for Action:

- States have the primary responsibility for implementing measures to reduce disaster risk. Disaster risk reduction needs to be an essential part of a State's investment in sustainable development. States have the power as well as the responsibility to protect their citizens and their national assets by reducing the risk of losses from disasters. States, however, cannot do the job alone. Effective disaster risk reduction relies on the efforts of many different stakeholders, including regional and international organizations, civil society including volunteers, the private sector, the media and the scientific community.
- Disaster risk reduction must be integrated into development activities. Disasters undermine hard-won development gains, destroying lives and livelihoods and trapping many people in poverty. States can minimize such losses by integrating disaster risk reduction measures into development strategies, assessing potential risks as part of development planning, and allocating resources for risk reduction, including in sector plans.
- A multi-hazard approach can improve effectiveness. A particular community is usually exposed to risks from a variety of hazards, which can be either natural or human-induced in origin, and can stem from hydrometeorological, geological, biological, technological or environmental forces. The resulting cumulative risk cannot be tackled effectively if actors plan merely for selected hazardous events. A multi-hazard approach involves translating and linking knowledge of the full range of hazards into disaster and risk management, political strategies, professional assessments and technical analysis, and operational capabilities and public understanding, leading to greater effectiveness and cost-efficiency.

- Capacity development is a central strategy for reducing disaster risk. Capacity development is needed to build and maintain the ability of people, organizations and societies to manage their risks successfully themselves. This requires not only training and specialized technical assistance, but also the strengthening of the capacities of communities and individuals to recognize and reduce risks in their localities. It includes sustainable technology transfer, information exchange, network development, management skills, professional linkages and other resources. Capacity development needs to be sustained through institutions that support capacity-building and capacity maintenance as permanent ongoing objectives.
- Decentralize responsibility for disaster risk reduction. Many disaster risk reduction activities need to be implemented at provincial, municipal and local levels, as the hazards faced and the populations exposed are specific to particular geographic areas. Similarly, the administrative responsibilities to manage key risk factors, such as land-use zoning or building approvals, are often devolved to such scales. In order to recognize and respond to these locally specific characteristics, it is necessary to decentralize responsibilities and resources for disaster risk reduction to relevant subnational or local authorities, as appropriate. Decentralization can also motivate increased local participation along with improved efficiency and equitable benefits from local services.
- Effective disaster risk reduction requires community participation. The involvement of communities in the design and implementation of activities helps to ensure that they are well tailored to the actual vulnerabilities and to the needs of the affected people. Participatory approaches can more effectively capitalize on existing indigenous coping mechanisms and are effective at strengthening community knowledge and capacities. They are usually more sensitive to gender, cultural and other context-specific issues that can undermine or empower particular groups and individuals to take locally based action. The incorporation of local perspectives into decisions and activities also helps to ensure that changes in vulnerability and perceptions of risk are recognized and factored into institutional processes, risk assessments, and other programmes and policies.
- Gender is a core factor in disaster risk and in the implementation of disaster risk reduction. Gender is a central organizing principle in all societies, and therefore women and men are differently at risk from disasters. In all settings – at home, at work or in the neighbourhood – gender shapes the capacities and resources of individuals to minimize harm, adapt to hazards and respond to disasters. It is evident from past disasters that low-income women and those who are marginalized due to marital status, physical ability, age, social stigma or caste are especially disadvantaged. At the grass roots level, on the other hand, women are often well positioned to manage risk due to their roles as both users and managers of environmental resources, as economic providers, and as caregivers and community workers. For these reasons it is necessary to identify and use gender-differentiated information, to ensure that risk reduction strategies are correctly targeted at the most vulnerable groups and are effectively implemented through the roles of both women and men.

- Public-private partnerships are an important tool for disaster risk reduction. Public-private partnerships are voluntary joint associations formed to address shared objectives through collaborative actions. They may involve public organizations such as government agencies, professional and/or academic institutions and NGOs, together with business organizations such as companies, industry associations and private foundations. Because the threats from natural hazards affect both public and private interests alike, private-public partnerships can offer opportunities to combine resources and expertise to act jointly to reduce risks and potential losses. They can thereby improve the resilience of communities.
- Disaster risk reduction needs to be customized to particular settings. States vary greatly in their political, socioeconomic, cultural, environmental and hazard circumstances. Measures that succeed in reducing risk in one setting may not work in others. Customizing involves making use of others' experience, for instance by reviewing the context of particular measures and the nature of good practices and lessons learned, and then tailoring these to implement policies and activities that are appropriate for the local contexts. An important aspect of customizing is an awareness of cultural diversity, recognizing the differences among groups of people in language, socioeconomic and political systems, religion and ethnicity, and in their historical relationship with nature. Local socio-political structures and cultural conditions, such as kinship arrangements, customary rights, community and family networks and systems of leadership, nearly always persist during times of stress. It is important to take these factors as a starting point and to build on them when designing and implementing new policies and practices.

Basic steps in managing a task

The Guide provides a summary of a series of basic steps for managing each of the tasks described in the document. It notes that each of tasks can be approached as a single independent activity, typically involving a series of steps such as planning, consultation and reporting. Although the tasks address different goals, the steps required are considered largely similar.

Develop an internal workplan. A workplan helps activity managers determine the human and financial resources required to undertake the task, as well as the time needed to carry out all of the task's activities.

Get necessary agreements or endorsements. Enlisting engagement from higher levels of authority helps to secure the required resources and to raise the necessary political profile.

Identify stakeholders. Stakeholders are those parties who are interested in or affected by the activities and who can either contribute to or impede its achievement. The set of stakeholders varies for different tasks. Task 1.1 provides further detail on this step.

Assemble information. The need for data and information will vary greatly depending on the task, and its collection may occur at several steps along the way. An initial basic set of information will be needed on the prevailing conditions of disaster risk and risk reduction policies, in order to identify the nature of the problem that the task must address, and to

provide a documented reference point or "benchmark" against which the task's success can be measured later.

Convene a planning and organizational meeting with all stakeholders. This step involves jointly developing and agreeing upon:

- The scope of the task, its objectives and goal.
- A workplan (adapted from the internal workplan, in order to include other stakeholders).
- Individual and agency roles and responsibilities.
- Methods for undertaking the task.
- Methods for reporting intermediate results.
- Communication and dissemination strategies for the task during and after completion.
- A strategy for managing work processes, monitoring progress, generating recommendations and promoting their implementation.

Carry out the task. The task manager will need to ensure that team members and subgroups understand what is expected of them and have the necessary resources to carry out their duties. The task manager also needs to oversee the work, monitoring progress and solving any problems as they occur.

Consultation and outreach: Task success often hinges on whether stakeholders agree that the activities meet their needs and expectations. Therefore, to keep the task on track and to foster buy-in, managers will need to regularly inform, consult and, wherever appropriate, integrate stakeholders' views. Involving a broad set of stakeholders will also allow them to learn from the task, and to identify and seize opportunities for implementing disaster risk reduction.

Disseminate results. Here, managers communicate the results of the completed task to various government sectors involved, other relevant stakeholders and to the general public through the media. Chapter 3 provides specifics on useful communication strategies.

Follow-up. Specifics of this step, which vary greatly by task, are likely to include internal and external advocacy to ensure the recognition and adoption of any recommendations and plans.

Monitor and evaluate. Monitoring and evaluation helps managers measure progress and assess the effectiveness of projects. Consideration of monitoring and evaluation needs to be built into the planning stage, to ensure that the right data is collected as part of all activities and that the process is tailored to answer the relevant management questions, particularly concerning the expected achievements with the target groups and overall cost-effectiveness.

Annex 3C: African Union/UNISDR (2004): Guidelines for mainstreaming risk assessment into development (www.unisdr.org)

Introduction and Rationale

The Guidelines aim to help make disaster risk reduction and assessment a routine part of development planning and resource allocation. This means instilling the culture of applying disaster risk assessment as an analytical and decision-making framework at all levels of society. The practice of disaster risk assessment would then become another regularly used decision-making tool, like environmental impact assessments, cost-benefit analyses and social impact assessments.

As disaster risk reduction is a vast subject covering numerous areas, there is still much more to learn about how to mainstream disaster risk reduction in development. The publication provides a useful starting point, suggesting issues to consider when dealing with disaster risk reduction in a development context.

The Guidelines are based on seven key principles for mainstreaming disaster risk reduction in development, which are linked to the five priority areas of action of the Hyogo Framework for Action. These principles are:

1. *Political commitment, strong institutions and appropriate governance are essential to integrating risk issues in development processes and to reducing disaster risks.*
2. *The integration of disaster risk reduction in development is based on sound knowledge of disasters, risk and risk reduction.*
3. *Awareness of risk and risk reduction measures conveys knowledge about disaster risk reduction solutions.*
4. *Effectively incorporating risk considerations in development decision-making requires synergies between sustainable development and disaster risk reduction.*
5. *Sound development investment in the face of hazards depends on consideration of risk issues.*
6. *Achieving the objectives of mainstreaming disaster risk reduction depends on enhancing compensatory risk management to help reduce the legacy of accumulated risk.*
7. *Disaster risk reduction is a multi-thematic and multisectoral process; mainstreaming it in development involves its integration in development themes or sectors.*

Outline of the Guidelines

Section 1 of the Guidelines gives the background and context for the Guidelines, and explains why they are needed, and the role, purpose, elements, audience and scope of the document.

Section 2 discusses how to understand disaster risk assessment within the context of disaster risk reduction as a development function. It notes that hazards need not cause

disasters: it is vulnerability that creates conditions for disasters. The Guidelines then point out the importance of participatory local risk assessment involving multiple risks, hazard and vulnerability factors. It shows that risk assessment is a three-phased management process of problem identification, research and analysis, and decision-making. They also explain that risk assessment it has advantages and benefits, but also limitations and that there is the need to adapt available risk assessment approaches.

Section 3 presents key principles for mainstreaming disaster risk reduction in development and guidance on integrating disaster risk assessment in the project cycle. It also contains recommendations for integrating both disaster risk assessment and the broader disaster risk reduction in nine key development sectors and themes. The development themes and sectors covered in the Guidelines are poverty reduction, agriculture and rural development, environmental protection, water resource management, land-use planning, infrastructure development, gender issues, HIV/AIDS and health issues, and climate change adaptation.

Section 4 comprises guiding principles and guiding questions and seeks to explain how to mainstream disaster risk assessment in development activities. The guiding principles expand the key principles presented in Section 3, while the guiding questions are examples of the types of issues to be considered in identifying the information needed for the mainstreaming process. Both the guiding principles and guiding questions are linked to the five thematic areas of the Framework for Disaster Risk Reduction accepted under the United Nations International Strategy for Disaster Reduction (UN/ISDR). These are: political commitment & institutional aspects, risk identification, knowledge management, risk management applications, and preparedness and emergency management.

Section 5 gives, for ease of use as practical guidelines, sixteen checklists for mainstreaming disaster risk assessment into the development process. Most of the checklists comprise the required key principle, guiding principles, guiding questions and success factors.

Also available are a glossary of key terms relating to disasters and risk reduction, and a list of acronyms and abbreviations.

The Guidelines covers generic issues to consider in mainstreaming disaster risk reduction in development, it does not touch on specific analytical methods for assessing risks from various natural hazards. Nor does it cover disasters induced by conflicts.

Nonetheless, it is a useful aid in the journey towards disaster-resilient communities in Africa.

Annex 3D: ProVention Consortium: Tools for Mainstreaming Disaster Risk Reduction: Guidance Notes for Development Organisations (www.preventionweb.net)

The tool originates from the recognition since the 1990s of the need to mainstream disaster risk reduction into development.

The ProVention Consortium project on Tools for Mainstreaming Disaster Risk Reduction supported this process by providing a series of 14 guidance notes for use by development organizations to adapt programming, and project appraisal and evaluation tools to mainstream disaster risk reduction into development work in hazard-prone countries. The guidelines are intended as short, practical briefs supplementing existing, more general, guidelines on programming, and appraisal and evaluation tools. The series is also considered of relevance to stakeholders involved in climate change adaptation.

The guidance notes cover the following subjects: (1) Introduction; (2) Collecting and using information on natural hazards; (3) Poverty reduction strategies; (4) Country programming; (5) Project cycle management; (6) Logical and results-based frameworks; (7) Environmental assessment; (8) Economic analysis; (9) Vulnerability and capacity analysis; (10) Sustainable livelihoods approaches; (11) Social impact assessment; (12) Construction design, building standards and site selection; (13) Evaluating disaster risk reduction initiatives; and (14) Budget support.

A brief summary of each guidance note is provided for easy reference and these are reproduced below:

Guidance Note 1: Introduction. This preliminary note outlines the rationale underlying the series, introduces the guidance notes and highlights critical factors contributing to the successful mainstreaming of disaster risk reduction into development policy and practice.

Guidance Note 2: Collecting and using information on natural hazards. The second guidance note focuses on the basic processes of acquiring and using hazard information. It forms a central pillar of the guidance note series, supporting development organizations in identifying the level of hazard exposure in a particular country or region and determining whether or not disaster risk mainstreaming is necessary. The guidance note covers key elements of natural hazards information, its place in the project planning/management cycle, tools for gathering information, providers of information and issues to be considered when collecting and analysing data. Owing to the diversity of natural hazards and the varying types of related information and data collection methods, the note is intended purely as an introduction to this topic.

Guidance Note 3: Poverty reduction strategies. As development organizations increasingly align their programmes of support with recipient country government policies and objectives, it is essential that mainstreaming begins with government policies and strategies themselves. This guidance note therefore covers the integration of hazard-related issues into the preparation of poverty reduction strategies – the primary development planning tool in many low-income countries – and other poverty reduction initiatives in hazard-prone countries. It is intended for use by national governments in preparing poverty reduction strategies and by international development organizations in supporting

governments in this process.

Guidance Note 4: Country programming. All international development organizations apply some form of country or regional programming framework through which problems; needs and interests are analysed, sectoral and thematic areas of focus identified and the broad level and composition of assistance outlined. This process provides an important opportunity to address disaster risk in a strategic and coordinated fashion, exploring the complex, cross-cutting and multi-faceted nature of vulnerability and identifying appropriate, proactive risk management solutions. The fourth guidance note in the series therefore addresses this topic, providing guidance on how to assess and address disaster risk within country programming in hazard-prone countries. It is intended as a basic, generic guide for use by all types of international development organization, complementing existing country programming guidelines.

Guidance Note 5: Project cycle management. This guidance note shifts the focus of attention down to the level of individual projects, beginning by discussing some general questions about the integration of disaster risk management concerns within the project cycle as a whole, particularly in the planning phases. It explains the project cycle approach, provides overall guidance on mainstreaming within it and looks at available related tools. Such tools complement efforts to adapt specific individual appraisal tools commonly deployed within the project cycle to take hazard-related concerns into account. This guidance note is intended primarily for use by people working in development organizations on project design and management, but is also relevant for personnel of governments and private organizations.

Guidance Note 6: Logical and results-based frameworks. Logical framework and results-based management tools are widely used for overall project design and management purposes. This note provides guidance on the systematic consideration of hazard-related issues in the application of these tools to all projects in hazard-prone areas. It is intended for use by development organization project preparation teams and implementing officers.

Guidance Note 7: Environmental assessment. This guidance note focuses on environmental assessment, a key point in the design of a project to explore natural hazards and related risk. Natural hazards are themselves environmental phenomena, potentially damaging and disrupting projects, while the state of the environment, in turn, is a key factor determining vulnerability to natural hazards. The note therefore provides guidance in analysing the vulnerability consequences of potential projects via their impact on the environment and the potential threat to projects posed by natural hazards. The findings are intended to feed into other forms of appraisal and engineering design as relevant. This guidance note is intended primarily for use by development organizations but is also relevant for personnel of governments and private organizations involved in the design of individual projects.

Guidance Note 8: Economic analysis. Multilateral lending agencies routinely undertake some form of economic analysis as part of their project appraisal process. This guidance note outlines how to analyse disaster risk and related options for reducing vulnerability in hazard-prone countries from this perspective and to ensure that they are adequately and systematically examined where relevant. The guidance note is intended for use by development organization economists, complementing their existing economic analysis guidelines. It is also of more widespread use in helping to support the development

of a strong body of evidence on the net economic benefits of disaster risk reduction. The current paucity of such evidence has proved a major stumbling block in attracting interest and commitment to disaster risk reduction, as there is little sense of the likely economic returns to such investments.

Guidance Note 9: Vulnerability and capacity analysis. This guidance note is the first of three in the series relating to various tools for appraising projects from a social perspective as used by different development organizations. This first one covers vulnerability and capacity assessment and analysis (VCA), introducing basic approaches, explaining how VCA can be integrated into the project planning process and showing how natural hazards and disasters, in turn, can be factored into VCA. The issue of people's vulnerability and capacity in the context of natural hazards is very important in understanding their potential impact and making choices about development interventions. The guidance note focuses on the use of VCA in development projects, but the approach can also be used in disaster risk reduction and post-disaster recovery. It is aimed at staff from diverse disciplines.

Guidance Note 10: Sustainable livelihoods approaches. Sustainable livelihoods thinking and methods offer a second tool of social analysis for supporting the incorporation of natural hazards and associated disaster risk into development project planning. By giving prominence to vulnerability and external shocks as central to the ways in which livelihoods are shaped, Sustainable livelihood approaches provide good opportunities for including hazard and disaster awareness in project planning. This guidance note briefly introduces sustainable livelihood thinking and explains its application to projects and programmes, with particular emphasis on its relevance to hazards and disasters. It reviews methods used in sustainable livelihood approaches to assess hazards, vulnerability and risk, and discusses other factors in applying sustainable livelihoods to project cycle management.

Guidance Note 11: Social impact assessment. The third guidance note on social appraisal tools addresses social impact assessment. By providing an understanding of a community and its social processes, social impact assessments facilitate the identification of the direct and indirect social consequences of disaster risk and the development of appropriate and effective mitigation mechanisms, which harness community resources and recognize community reactions to events. The guidance note outlines the principal approaches and methods used in social impact assessments and identifies entry points for introducing natural hazards and related risks. The note is intended for use by project planners and managers in multilateral and bilateral development agencies, national and local government departments, NGOs and private sector organizations. Users will include those managing or undertaking a social impact assessment, supporting them in incorporating disaster risk into their social assessment. The guidance note can also be used by those undertaking disaster risk assessments to understand how techniques of social impact assessments can assist the assessment and mitigation of disaster risk.

Guidance Note 12: Construction design, building standards and site selection. A considerable share of human and direct economic losses from natural hazard events occur as a direct result of damage to the built environment, in turn reflecting poor construction and sometimes inappropriate land use. This guidance note therefore focuses on construction design, building standards and site selection, and their role in risk reduction. The note provides general guidance for design professionals and development organizations concerning the construction of new infrastructure, the strengthening of existing infrastructure and post-disaster reconstruction in hazard-prone countries.

Guidance Note 13: Evaluating disaster risk reduction initiatives. This guidance note moves on from tools of project appraisal to address the evaluation of disaster risk reduction activities. This can be a challenging task because the success of disaster risk reduction is ultimately measured in terms of something – a disaster or a particular form or level of loss in the event of a disaster – that does *not* happen. The guidance note sets out the main steps in planning such evaluations, collecting and analysing data and using results, and discusses the main issues associated with these activities. The note is intended for programme managers and policymakers in organizations of any kind that are involved in any form of disaster risk reduction activity, either freestanding or within wider development or post-disaster recovery initiatives.

Guidance Note 14: Budget support. The final guidance note addresses the topic of budget support. There is an ongoing shift away from project-based assistance towards general and sector budget support. This shift offers considerable potential for supporting governments in strengthening their countries' resilience to natural hazards. This note therefore provides guidance on how to ensure that disaster risk is adequately and systematically examined in developing programmes of budget support in hazard-prone countries and that governments are encouraged and supported in managing disaster risk appropriately and reducing vulnerability. It is intended for use by development organisation staff involved in the design, implementation and evaluation of budget support.

Annex 3E: Tearfund: Mainstreaming Disaster Risk Reduction into development: A tool for development organisations (www.tearfund.org)

The document is a practical tool to help development organizations mainstream disaster risk reduction into their relief and development planning and programming. It addresses a perceived gap by donors and other organizations of the need for practical guides on how to mainstream risk reduction, while identifying a series of factors that influence the pace of mainstreaming.

The document identifies six key areas considered crucial to the process of mainstreaming namely policy, strategy, geographical planning, project cycle management, external relations and institutional capacity. It presents performance targets and indicators for each of six key areas to help organizations assess, measure and monitor their progress in terms of mainstreaming. They outline the broad scope and progression to be achieved by a policy or strategy to mainstream risk reduction. It is expected that these will be used as 'templates' for measuring mainstreaming and adjusted as necessary to suit the specific conditions that prevail within any organization.

Organizations can apply the targets and indicators to themselves (perhaps with the involvement of an external facilitator) to measure their progress with mainstreaming and take charge of their own development. Alternatively, to apply independent checks and balances, an external body such as an NGO, audit office or parliamentary committee could use the targets and indicators to assess and monitor an organization's progress.

Although mainly targeted at development agencies, the Tearfund tool can benefit national and local governments, particularly because mainstreaming tools remain scarce.

Annex 3F: Asian Disaster Preparedness Center: Integrating Disaster Risk Management into the Development Process: Disaster Risk Reduction Practitioner's Handbook Series (www.adpc.net)

The handbook was developed by the Asian Disaster Preparedness Centre (ADPC), with funding from the Asian Development Bank. Integrating Disaster Risk Management into the Development Process is the result of a collaborative, multi-stakeholder effort over the between 2011 and 2013, drawing upon the knowledge and experience of many organizations and individuals across Asia and the Pacific. It claims to integrate the most up-to-date strategies and methods of integrating disaster risk management into the development process, as it is practiced in Asia and the Pacific, with inputs from the broad range of experts.

The Disaster Risk Management Practitioner's Handbook Series portrays what the disaster risk management practitioner can contribute to a selection of government-led processes in order to strengthen disaster resilience and foster sustainable, inclusive development across Asia and the Pacific.

Accordingly, the handbooks aim to provide advice to the disaster risk management practitioner on both strategic and practical options for operational implementation of disaster risk management within a selection of development processes and tools. The advice contained in the handbooks draws on the experience and knowledge of a wide range of disaster risk management and development practitioners with experience across Asia and the Pacific.

The series is comprised of three complementary handbooks:

- (i) Integrating Disaster Risk Management into the Development Process
- (ii) Integrating Disaster Risk Management into Urban Management
- (iii) Integrating Disaster Risk Management into Climate Change Adaptation

The handbooks specifically address those disaster risk management practitioners who are government officials and are responsible for managing or reducing disaster risk. As such, the practitioner may be a member of a national or subnational disaster risk management agency, or an officer within a line ministry or subnational authority who has been charged with the responsibility for disaster risk management within the agency's scope of work.

It is intended for the following target groups:

- For disaster risk management practitioners who are familiar with integrating disaster risk management, the handbooks can function as an aide memoire.
- For disaster risk management practitioners with less experience, the handbooks can act as a guide as to how they can best direct their efforts.
- For officials engaged in development planning, urban management and climate change adaptation, the handbooks will provide insight into how they can benefit from the contributions of the disaster risk management practitioner.

Benefits of integration of disaster risk management into the development process

The integration of disaster risk management into the policymaking process facilitates the systematic consideration and adoption of risk-resilient policy options or alternatives. When effectively implemented, the risk-resilient objectives are translated into sector-specific policy responses, budgets and, ultimately, action. In brief, the effective integration of disaster risk management into the development process results in risk-sensitive development, which has two fundamental outcomes:

Firstly, it gradually leads to the protection of all existing and new public assets against the impacts of hazard events. Over time, awareness of potential hazard impacts leads to investment in the protection of existing assets. Similarly, protective features gradually become part of normal investment in any new asset.

Secondly, it seeks to avoid the creation of new forms of risk due to an increase in the exposure or vulnerability of populations and assets. This means, for example, that socioeconomic policies will not increase the exposure of populations or assets, unlike an agricultural policy that encourages farming settlements in an inadequately protected flood plain. It also means that all new physical developments, like rail lines and housing developments, are undertaken with consideration not only of the potential hazard impacts on the asset itself, but also of the potential impacts on the surrounding area. As such, these developments do not exacerbate existing risks or create new ones for nearby communities or assets.

There are thus a number of guidelines on mainstreaming of disaster risk reduction that organizations and governments can benefit from in their efforts in that regard. Many of them target international organizations, although the general principles and approaches presented can be equally applicable to governments. The Practitioner's Handbook, and the in particular the ASEAN training course developed by ADPC, are designed particularly for national and local level officials and could be adapted to the African context.

Annex 3G: Mainstreaming Disaster Risk Reduction into National and Sectoral Development Process: Training Course of the Regional Consultative Committee on Disaster Management (RCC) and developed under the RCC Program of Mainstreaming Disaster Risk Reduction in Asia (www.adpc.net)

ADPC has not only produced a guiding handbook for integration of disaster risk management into development processes, but has also developed a training course for capacity-building.

The aim of the Program on Mainstreaming Disaster Risk Reduction into Development is to build capacity for mainstreaming disaster risk reduction into development policy, planning and implementation. As part of the Program, ADPC, as the secretariat of the Regional Consultative Committee on Disaster Management (RCC), and with support provided by AusAID has developed the RCC Training Course on *Mainstreaming disaster risk reduction into national and sectoral development process*.

The aim of the course is in line with the overall aim of the Program, namely safe development in RCC member countries with increased community resilience to natural disasters, thus contributing to realizing the Millennium Development Goals.

Goal and Objectives

The goal is to build capacities and enhance understanding among the participants of mainstreaming disaster risk reduction in the national and sectoral development processes. Though it has been recognized that it is important to build the capacity of all stakeholders involved in development activities on mainstreaming disaster risk reduction, the target participants of course are the ministries and government departments in RCC member countries, both at national and subnational level.

The outcomes of training include:

- (i) Increased awareness among participants on the need to mainstream disaster risk reduction into national and sector policies, plans and programmes,
- (ii) Enhanced capacity among participants in terms of mainstreaming disaster risk reduction concerns into the plans and programmes of their ministries and departments, as well as in the use the mainstreaming tools into the daily work of individual ministries and departments;
- (iii) Increased understanding and operational skills developed among participants on establishing and strengthening inter-ministerial and inter-departmental partnerships for mainstreaming disaster risk reduction into development work, including collaboration with private sector; and
- (iv) Increased capacity among participants to undertake advocacy on, and promote awareness of, mainstreaming disaster risk reduction into development based on needs.

The training course has five modules: the introductory module addresses the link between disasters and development and provides an overview of mainstreaming disaster risk reduction. Module 1 discusses the concept of disaster risk reduction. Module 2 addresses mainstreaming of disaster risk reduction into development planning. Module 3 focuses on the mainstreaming of disaster risk reduction in sectors (sectoral application). Lastly, Module 4 provides practical guides on the implementation of mainstreaming.