

**SUBREGIONAL ASSESSMENT ON MAINSTREAMING AND
IMPLEMENTING DISASTER RISK REDUCTION MEASURES
IN SOUTHERN AFRICA**

DRAFT FINAL REPORT

20 November, 2013

ACKNOWLEDGEMENTS

UNECA, SADC and UNISDR coordinated the production of this study and refinement of the analysis for this report. We are particularly grateful to Charles Akol from UNECA for providing overall coordination and to Dr. Kennedy Masamvu from SADC DRR Unit for coordinating the data collection process.

The production of this report was possible thanks to the contributions of participants from member states. Special thanks go to the following NDMO from members states: Anastasia Amunyela, Directorate Disaster Risk Management, Namibia; Fanny Lacroix, Indian Ocean Commission; Mmaphaka Tau, National Disaster Management Centre, South Africa; Sibusisiwe Ndlovu, Department of Civil Protection, Zimbabwe; Venetia Bellers, Adviser for Disaster Management, Prime Minister's Office, Mauritius; and Yande Mwape, Disaster Management and Mitigation Unit, Zambia.

We would also like to thank all those who provided logistical support. We are particularly grateful to Segametsi Moatlhaping, SADC DRR Unit and Tsigereda Assayehegn, UNECA. Finally, we would like to thank the consultant, Dr. Bernard Manyena, for his expertise to successfully conduct this study.

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LIST OF ABBREVIATIONS AND ACRONYMS

ACDS	African Centre for Disaster Studies
AIDS	Acquired Immune Deficiency Syndrome
AMSED	African Monitoring of Environment for Sustainable Development
CAP	Consolidated Appeal Process
CC	Climate Change
CCA	Climate Change Adaptation
CLIDAM	Climate Data Management System
CLIDAP	Climate Data Processing and Production System
CSC	Climate Service Centre
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
ECA	United Nations Economic Commission for Africa
EIA	Environmental Impact Assessment
ENSO	El Nino – Southern Oscillation
EWS	Early Warning Systems
FAO	Food and Agriculture Organisation
GII	Gastro-intestinal infections
HDI	Human Development Index
HEA	Household Economy Assessment
HFA	Hyogo Framework for Action 2005-2015
HIV	Human Immune Virus
HVCA	Hazard, Vulnerability and Capacity Assessment
IFRC	International Federation of the Red Cross
INGO	International Non-Governmental Organisation
IOC	Indian Ocean Commission
MDGs	Millennium Development Goals
MONIS	Extreme Weather and Climate Monitoring
NDMF	National Disaster Management Framework
NDMO	National Disaster Management Organisation
NEPAD	New Partnership for Africa's Development
NEWC	National Early Warning Centre
NGO	Non-Governmental Organisation
NVAC	National Vulnerability Assessment Committee
OPM	Office of the Prime Minister
OVC	Orphans and Vulnerable Children
REC	Regional Economic Community
REWC	Regional Early Warning Centre
RPO	Regional Poverty Observatory
RPTC	Regional Peacekeeping Training Centre
RVAA	Regional Vulnerability Assessment and Analysis
RVAC	Regional Vulnerability Assessment Committee
SADC	Southern Africa Development Community
SIA	Social Impact Assessment
UN	United Nations
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
UNICEF	United Nations Children Fund

UNISDR	United Nations International Strategy for Disaster Reduction
USAID	United Nations Agency for International Development
VAA	Vulnerability Assessment and Analysis
VAC	Vulnerability Assessment Committee
WASH	Water, Sanitation and Hygiene
WFP	World Food Programmes
WHO	World Health Organisation
WMO	World Meteorological Organisation
WRI	World Risk Index

EXECUTIVE SUMMARY

1. Introduction

The Southern Africa sub-region, known as Southern African Development Community (SADC), has increasingly become vulnerable to disasters triggered by both a complex combination of natural and human-induced hazards. The common hazards include severe storms, drought, floods, cyclones, environmental degradation, earthquakes, conflict, political instability, poverty, and food and livelihood insecurity. As the SADC region recognises that 'disasters are a development problem', mainstreaming DRR in development processes is likely to contribute to the resilience of the SADC region to disasters. This report provides an assessment of the extent to which DRR has been mainstreamed and implemented in the SADC region. The specific objectives were:

- a. To identify, analyse and document the main disaster risks in SADC and associated damages and losses;
- b. Identify and analyse past, ongoing and planned interventions by SADC and main partner organizations; and
- c. Identify and review key SADC and main partner strategy, policy, plan and programme documents to assess DRR integration.

The following sections summarise the findings.

1. Hazard trends are on the increase

The hazard trend between 1900 and 2013 is generally on the increase with hydrometeorological hazards such as droughts, cyclonic storms and floods, having the highest frequency. The increase in hydrometeorological hazards is mainly attributed to the impact of climate change. Consequently, hydrometeorological hazards have also increased the risk of biological hazards, particularly the water-borne diseases such as malaria, cholera and dysentery. Equally, although the risk of environmental hazards is low, destruction of vegetation through, for example, wild fires, has increased the risk of droughts and floods. The geophysical hazards, such as earthquakes and volcanic activities have the lowest frequency. However, technological hazards, including industrial, traffic and miscellaneous accidents have become of major cause for concern, with South Africa and the DRC having the highest frequency of technological hazards.

2. Vulnerability to disasters on the increase

The high levels of poverty, increased exposure to hazards, cross-border influx, weak social protection policies and relatively weak institutional capacity undermine DRR measures in the SADC region. The majority (9 out of 15) of SADC countries fall in the low HDI category, with Lesotho, Zambia, Malawi, Zimbabwe, Mozambique and DRC falling below the sub-Saharan Africa HDI of 0.475. Against these poverty levels is increasing exposure to climate change related hazards, impact of HIV and AIDS, inadequate social protection policies to provide safety nets for the poor, increasing urbanization and trans-boundary risk which have increased vulnerability to disasters.

3. Limited sustainability of resilience and capacity development efforts

The SADC region has continued to enhance its capacity and resilience to disasters and climate change impacts, notably through policy and institutional frameworks. SADC adopted a five-year DRM planning cycle since 2001. The 2001-2006 strategy was replaced by the 2007-2012 strategy, which was also succeeded by the 2012-2016 strategy. However, it is not clear how SADC draws lessons from the implementation of these strategies to enable inform and strengthen the strategic options. In relation to institutional capacity development, SADC has continued to strengthen hazard, vulnerability and capacity analyses, information management and early warning systems. Relying on external funding from cooperating partners for policy, institutional capacity and programme development as well as sustenance appears to be the major challenge both at the sub-regional and national levels.

3. Low, irregular and inconsistent self-reporting on HFA implementation

In the exception of Mauritius, Mozambique and Tanzania that have submitted HFA progress reports for the three periods, three countries appear not to have submitted any reports, two countries have reported twice while six countries reported once suggesting that either respective countries (1) have limited DRR technical or institutional capacity or (2) were not aware of how to complete the HFA monitor. However, inconsistencies in self-reporting make it difficult to generalize the extent of progress across SADC in implementing HFA priorities. Nonetheless, the countries that have submitted two or all the three reports generally show some progress in each of the five priorities with Mozambique scoring 5 in two of the indicators. However, given that the self progress reports are not subject to external review, there is a possibility that countries could have reported much more favourably than what is actually happening on the ground due to political and economic factors. For this reason, the peer-reviews may be more beneficial to member states than the current individual self-reporting system.

4. Progress in DRR/M mainstreaming but inadequate resource

4.1 Mainstreaming DRR/M in national legal frameworks

The DRR/M legal frameworks that have either been passed or are in draft form incorporate the elements of the HFA. Also, these legislations provide national coordination mechanisms, decentralise power to sub-national authorities and are generally explicit on the role of sectors in mainstreaming DRR. However, there are slight variations in the power and authority accorded to the NDMO to effectively mainstream and implement DRR. In Zimbabwe and South Africa, the NDMO is one of the directorates in a ministry suggesting limited power and authority in effectively mainstreaming and implementing DRR/M compared with Namibia and Zambia where the NDMO is located in either in the president's office or OPM. In relation to funding the legislations are explicit on response and less explicit on prevention, with the former regarded as the NDMO responsibility while the later is assumed to be a sector ministry responsibility.

4.2 Mainstreaming DRR in national policy frameworks

The DRM policies that have either been passed or are still in draft form generally set the basis for DRM mainstreaming. The policies are also not only coherent with the global, regional and national frameworks but also incorporate DRM tools including risk assessments, for example, hazard, vulnerability and capacity assessments

(HVCA) and environmental impact assessments. The policies are also more explicit than the legislations on sector responsibilities, stakeholder and affected communities' participation, multi-hazard early warning systems, risk-sharing transfer mechanisms, trans-boundary risks, preparedness, response and recovery. While policies appear to be clear on sources of funding, they are less clear on the ratio of the national budget for DRM. As a result, DRM appears to be skewed towards response rather than prevention.

4.3 Mainstreaming DRR in national strategies and plans

Of the sampled countries, only Namibia had an approved plan from the government while the Zimbabwe's DRM strategy was in draft form. This could suggest that SADC member states were still facing challenges to operationalise DRM mainstreaming and implementation. Notwithstanding that the two plans were underpinned by DRM conceptual and global, regional and national policy frameworks, they differed in many respects. What is worth noting is that while Namibia's plan provides detailed information about what needs to be done, it could have been much more focused if there was a timeframe to differentiate it from a generic risk management plan. In contrast, the Zimbabwe draft DRM strategy has a timeframe (2012-2015) to allow the DRR community to review the successes, share good practice and lessons learned.

4.4 DRR Mainstreaming in national, sector policies and strategic plans

In the exception of Zimbabwe, the mainstreaming of DRM across sectors in sampled countries appears to be generally low. There are, however, slight variations. In the exception of UNDAF and Climate Change policy documents, the key sectors, for example, health and education rarely refer to the DRM global, regional or national policy frameworks. Nonetheless, the health sector policies and strategies, because of the nature of their mandates, implicitly incorporate DRM tools and activities, such as risk assessments, malaria prevention, disease surveillance, early warning, and emergency preparedness and response.

5. Good practice can replicated by adapting them to specific contexts

The good practice case studies on DRM provide tools, lessons learned, key success factors and challenges and potential for replication. While the good practice case studies are context-specific, there are possibilities of adapting them to other contexts to provide evidence to policy-makers at regional, national and sub-national levels.

Recommendations

1. In countries where the DRM legislations, policies and strategic plans are either non-existent or in draft form, consider strengthening advocacy measures to influence policy-makers to accord them high priority on their agenda.
2. Taking into account that DRM is a cross-cutting issue, in countries where NDMO are directorates under line ministries, consider advocating that they be located in either the office of the president or Office of the Prime Minister to increase their power and authority over sector ministries.
3. That NDMOs advocate for the incorporation of DRR budget lines in sectors and decentralised structures.

4. To add more value to the HFA monitor self-reporting system, consider establishing regional peer-reviews of DRR progress to (a) reduce the possibility that countries could be reporting much more favourably than what is actually happening in practice; and (b) share lessons of good practice.
5. Consider aligning time-framed DRM strategies and plans with the global and regional frameworks to improve the measurement of progress and, to some extent, improve the efficiency of the reporting using the HFA monitor.
6. Strengthen DRR capacity for sectors (a) through stand-alone projects in order to increase knowledge, skills and expertise to form the basis for DRR mainstreaming into sector policies, programmes and projects, and (b) supporting them to establish baselines on DRR to ensure identification of gaps in DRR that will support the budgeting process.
7. To address trans-boundary risks, specific resource mobilisation should take a region-wide approach rather than by individual country or individual donor which could reduce efficiency and timeliness.

DEFINITION OF KEY TERMS

The following definitions are constantly referred to in this report.

Adaptation	The adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.
Climate change	A change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer (IPCC, 2001).
Climate Change Adaptation	The adjustments of human and natural systems in response to present or expected stimuli and their effects which reduce the damages or exploit the opportunities favourable to development (IPCC, 2001).
Disaster	A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources. It is normally represented by the equation function (risk) = hazard x vulnerability.
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.
Early Warning System	The set of capacities needed to generate and disseminate timely and meaningful warning information to enable individuals, communities and organizations threatened by a hazard to prepare and to act appropriately and in sufficient time to reduce the possibility of harm or loss.
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.
Prevention	The outright avoidance of adverse impacts of hazards and related disasters.
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.
Risk	The combination of the probability of an event and its negative

consequences.

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.

Risk Transfer The process of formally or informally shifting the financial consequences of particular risks from one party to another whereby a household, community, enterprise or state authority will obtain resources from the other party after a disaster occurs, in exchange for ongoing or compensatory social or financial benefits provided to that other party.

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

Source: UNISDR (2009)

1. INTRODUCTION

Mainstreaming disaster risk reduction (DRR) into national policies and strategies to reduce vulnerability and build resilience to disasters remains one of the central issues in the Southern African Development Community (SADC) region. The SADC region recognises that ‘disasters are a development problem’. Thus, the development process does not necessarily reduce vulnerability to natural hazards. Instead, ‘development failures’ can be the root cause of disasters (SADC, 2011). In many ways development processes can create new forms of vulnerability or exacerbate existing ones, impeding efforts to reduce poverty and promote growth. Mainstreaming DRR in development processes is likely to contribute to the resilience of the SADC region to disasters, particularly those triggered by multiple hazards including drought, floods, cyclones, fires, earthquakes, landslides, livestock disease, pest infestation and epidemics. Moreover, the SADC member states have closely aligned economies, for example, Botswana, Lesotho, Swaziland, Namibia and South Africa. Many of the hazards in SADC transcend boundaries. The Southern African floods of 2000 affected Mozambique, Madagascar, South Africa, Zimbabwe and Botswana, highlighting the need for a regional disaster risk reduction (DRR) coordinating strategy.

This report provides an overview of the progress in DRR mainstreaming and implementation in the SADC region. The report is based on an extensive desk review of DRR legislations, policies, strategies and programme reports and stakeholder consultations mainly from Mauritius, Namibia, South Africa, Zambia and Zimbabwe, and cooperating partners at national and regional levels. The study was commissioned by the United Nations Economic Commission for Africa (ECA) in collaboration with UNISDR and SADC Secretariat DRR Unit. The study was part of the project “*Strengthening Capacities of African Policymakers to Mainstream Natural Disaster Risk Reduction into National and Regional Development Policies and Strategies in Africa*”. The planned activities of the project were aimed at translating existing DRR strategies at various levels into concrete actions on the ground to enhance resilience of affected communities. SADC was one of the two selected Regional Economic Communities (RECs) and their members States to participate in this project. Nonetheless, this report does not intend to present all aspects of DRR mainstreaming in the SADC region, but rather to exemplify some of the SADC member states’ experiences in integrating DRR in national and sector policies, programmes and projects. In addition, this report adds value to DRR progress as it provides an opportunity for SADC to make contributions to the HFA review scheduled for March 2015 in Sendai, Japan.

2. OBJECTIVES AND STRUCTURE OF THE REPORT

The main objective of the study was to provide a comprehensive and analytical of assessment DRR mainstreaming and implementation in SADC (see Annex 1: Terms of Reference). This was supported by the following sub-objectives:

- b. To identify, analyse and document the main disaster risks in SADC and associated damages and losses;
- c. Identify and analyse past, ongoing and planned interventions by SADC and main partner organizations; and
- d. Identify and review key SADC and main partner strategy, policy, plan and programme documents to assess DRR integration.

The remainder of this report is divided into five major sections. The section that follows outlines the conceptual framework and the methodology of the study. In order to contextualize DRR mainstreaming to the SADC region, the second segment of the report presents an overview of the hazard and vulnerability profile of the SADC region. The third and fourth sections present the SADC regional progress in DRR mainstreaming and exemplars of good practice. Progress in DRR mainstreaming is divided into two sub-sections focusing on (1) progress in implementing the HFA using the HFA monitor, (2) the extent to which legal frameworks, and national, sector and cooperating partners policies and strategies mainstream DRR in development. While the good practice exemplars provide evidence of success, challenges and potential for replication, they do not necessarily by themselves lead to a reduction in disaster risk. Instead, they do not only represent important milestones but also constitute lessons learned that can be possibly be applied in similar contexts to increase the resilience of communities to disasters. As will be evident throughout this report, the SADC region's progress in DRR mainstreaming depends in part to the extensive engagement with, and support given to and provided by partners. These include national and sub-national governments, UN agencies, the IFRC and Non-Governmental Organizations (NGOs). Finally, the conclusions and recommendations summarises issues that need consideration by members states to progress DRR mainstreaming in the SADC region.

3. CONCEPTUAL FRAMEWORK

3.1 The Hyogo Framework for Action

The HFA underpins the conceptual framework for this study. The HFA initiated a strategic and systematic approach to building disaster resilience. The expected outcome of the HFA is the 'substantial reduction of disaster losses, in lives and in the social, economic and environmental assets of communities and countries' (UNISDR, 2005). The outcome is supported by three strategic goals and five priority actions. The strategic goals are:

1. The more effective integration of disaster risk considerations into sustainable development policies, planning and programming at all levels, with a special emphasis on disaster prevention, mitigation, preparedness and vulnerability reduction;

2. The development and strengthening of institutions, mechanisms, and capacities at all levels, in particular at the community level, that can systematically contribute to building resilience to hazards;
3. The systematic incorporation of risk reduction approaches into the design and implementation of emergency preparedness, response, and recovery programs in the reconstruction of affected communities.

The HFA action priorities are:

1. Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation.
2. Identify, assess and monitor disaster risks and enhance early warning.
3. Use knowledge, innovation and education to build a culture of safety and resilience at all levels.
4. Reduce the underlying risk factors.
5. Strengthen disaster preparedness for effective response at all levels.

The HFA assists the efforts of nations and communities to become more resilient to, and cope better with the hazards that threaten their development gains. Optimal achievement of the HFA is classed as integration of risk reduction considerations across all sectors of development governance, for example, education, health, communities, economy, environment and infrastructure (UNISDR, 2005). Thus, the efforts to reduce disaster risks must be systematically integrated into policies, plans and programmes for sustainable development and poverty reduction (UNISDR, 2005). The HFA points squarely to the role which the United Nation's Member States see DRR playing in achieving the parity aspired to by development initiatives such as the Millennium Development Goals (MDGs).

The major driver for the integration of the disaster and development, once disparate paradigms, is in response to increasing threat to human life and livelihoods by disasters, which have been exacerbated by the effects of climate change and to some extent development policy and practice. But, more importantly, there has been increasing attention towards proactively and pre-emptively reducing risks. This implies embedding DRR in the development framework and vice-versa in an attempt to increase resilience of both government and communities.

The Mid-Term Review (2010) and the Global assessment report (2011) have highlighted the progress and gaps in the implementation of the HFA. The impact of the HFA includes the following:

- playing a decisive role in promoting DRR progress across international, regional, and national agendas;
- strengthening policy, legislation and institutional frameworks;
- boosting capacities for risk assessments; and
- strengthening early warning, disaster preparedness and response systems.

The challenges include the following:

- Coordination and accountability - 'who owns' DRR – 'who' is in charge of 'what' at the national level;
- Lack of systematic multi-hazards risk assessments and early warning systems that factor in social and economic vulnerabilities;
- Risk of compartmentalizing HFA implementation without synergy between priorities;
- Limited integration of DRR into sustainable development policies and planning at national and international levels;
- Insufficient level of implementation of the HFA at the local level;
- Limited progress in using knowledge, innovation and education to build a culture of resilience;
- Limited implementation of cross-cutting issues in the HFA: multi-hazard approach, gender perspective and cultural diversity, community and volunteer participation, and capacity building and technology transfer; and
- Limited progress in addressing the underlying drivers of risk.

3.2 The African Region HFA Implementation

The commitments of the African Union to DRR dates back to the Constitutive Act (2000), where Heads of State and Governments of Member States pledged to promote, among other objectives, security, stability and sustainable development in Africa. The founding of the New Partnership for Africa Development (NEPAD) in 2001 was based on the vision of the Constitutive Act (2000) which later established the Africa Working Group on DRR (AWGDRR) in 2005. The Africa AWGDRR facilitates the mainstreaming and integration of DRR in all phases of development in Africa. To this end the AWGDRR developed the Africa Strategy for DRR to:

- increase political commitment to DRR;
- improve identification and assessment of disaster risks;
- enhance knowledge management for DRR;
- increase public awareness of DRR;
- improve governance of DRR; and
- integrate DRR in emergence management and response.

The implementation of the Africa Strategy for DRR is supported by UNISDR Africa, Africa Development Bank, UNDP-BCPR, UNEP and the five Regional Economic Communities (RECs). The RECs are Economic Community of Central African States (ECCAS), Indian Ocean Commission (IOC), Intergovernmental Authority on Development (IGAD) and Southern Africa Development Community (SADC). The DRR challenges the Africa region faces, according to UNISDR, include:

- Persistence of the disaster-response paradigm;
- Vested interests as sector ministries are reluctant to cede authority;
- Weak legal mandate;
- Deficient institutional support particularly in the form of resources;
- Poor linkages with sector ministries;
- Continuing dependence on external agency support;
- Capacity/knowledge shortfall; and
- Lack of women's and community-based participation.

3.3 Conceptualising DRR Mainstreaming

'Mainstreaming' (also referred to as 'integration') is a contested concept, meaning different things to different people. There is a lack of academic literature pertaining to mainstreaming DRR and public policy considerations. In addition to gender, governance and environment, DRR (and CCA) are the latest of a series of important topics to be 'mainstreamed' throughout policies, programmes, and projects.

Benson and Twigg (2007) view mainstreaming as an approach of considering and addressing risks emanating from natural hazards in medium-term strategic frameworks and institutional structures, in country and sectoral strategies and policies and in the design of individual projects in hazard-prone countries.

Tearfund has produced two documents on mainstreaming. One document aims at assisting developmental organisations with DRR mainstreaming. The other document aims at assisting governments with DRR legislation. Both contain the following definition of mainstreaming:

'Mainstreaming' derives from the metaphor of a small, isolated flow of water being drained into the mainstream of a river where it will expand to flow smoothly without loss or diversion. Therefore 'mainstreaming risk reduction' describes a process to fully incorporate disaster risk reduction into relief and development policy and practice. It means radically expanding and enhancing disaster risk reduction so that it becomes normal practice, fully institutionalised within an agency's relief and development agenda.

(Pelling and Holloway 2006: 16).

The common thread running through these definitions is that 'mainstreaming' DRR is a "recognition that too many factors and activities play a role in achieving DRR and only through a comprehensive cross-sectoral approach will DRR succeed" (Nunan, Campbell, Foster 2012: 262). Thus, mainstreaming should be carefully considered. Benson and Twigg (2007:5) state that mainstreaming requires analysis both of how potential hazard events could affect the performance of policies, programmes and projects and of the impact of those policies, programmes and projects, in turn, on vulnerability to natural hazards'. This analysis should lead on to the adoption of measures to reduce vulnerability and enhancing resilience, thus making DRR an integral part of the development process rather than as an end in itself (Benson and Twigg, 2007).

3.4 Key principles for DRR Mainstreaming

This study identified seven key principles for DRR mainstreaming in development:

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 DRR in development is based on sound knowledge of disasters, risk and risk reduction;
3. Awareness of risk and risk reduction measures conveys knowledge about DRR solutions;

4. Effectively incorporating risk considerations in development decision-making requires synergies between sustainable development and DRR;
5. Sound development investment in the face of hazards depends on consideration of risk issues;
6. Achieving the objectives of DRR mainstreaming depends on enhancing compensatory risk management to help reduce the legacy of accumulated risk; and
7. DRR is a multi-thematic and multi-sectoral process; mainstreaming it in development involves its integration in development themes or sectors.

Source: Africa Development Bank, UNISDR and NEPAD (2004)

3.5 Tools for DRR mainstreaming

To operationalise principles for DRR mainstreaming, tools may be necessary. Table 1 outlines some of the DRR mainstreaming tools that have been considered in this study.

Table 1: Tools for Mainstreaming DRR

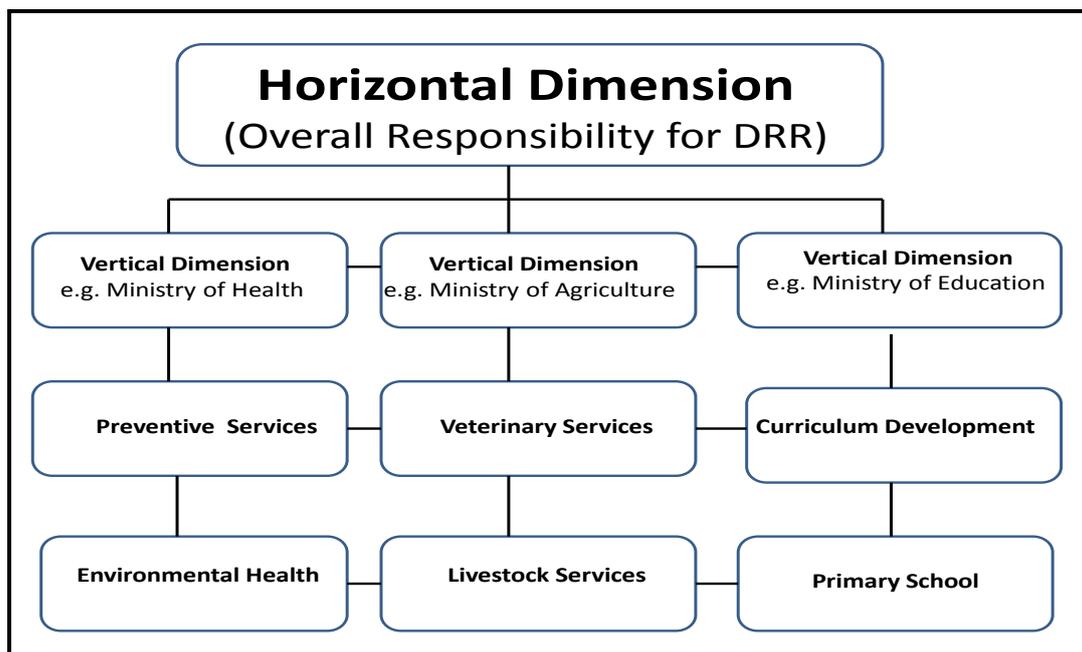
Tool	Usefulness of the tool
DRM cycle together with the project cycle management	These tools complement efforts to adapt appraisal tools to take hazard-related concerns into account.
Logical and results-based frameworks	Programme and project design consider hazard-related issues
Environmental Impact Assessment (EIA)	Process by which the environmental consequences of a proposed project or programme are evaluated, undertaken as an integral part of planning and decision-making processes with a view to limiting or reducing the adverse impacts of the project or programme.
Hazard, Vulnerability and Capacity Assessment (HVCA)	People's vulnerability and capacity in the context of natural hazards the extent of potential impact and making choices about development interventions.
Economic Analysis	Uses cost benefit analysis to systematically examine disaster risk and related options for reducing vulnerability in hazard-prone countries
Sustainable livelihoods (SL) approaches	Vulnerability and external shocks are central to the ways in which livelihoods are shaped. SL approaches provide opportunities for including hazard and disaster awareness in project planning
Social impact assessment (SIA)	Providing an understanding of social processes, identification of social consequences of disaster risk and the development and mitigation mechanisms
Construction design, building standards and site selection	The role of construction design, building standards and site selection in risk reduction. This includes the construction of new infrastructure, the strengthening of existing infrastructure and post-disaster reconstruction in hazard-prone countries.
Evaluating disaster risk reduction initiatives	Evaluations, collecting and analysing data and using results to identify good practice and share lessons learned

Source: Benson and Twigg (2007)

To this end, this study adapted Lafferty and Hovden's (2003) conceptual framework for environmental policy integration (Figure 1) to develop a conceptual framework for DRR mainstreaming. Consistent with Lafferty and Hovden (2003), the conceptual

framework has horizontal and vertical dimensions of governmental policy integration. The horizontal integration on one hand is the extent to which a central government has laid out clear and comprehensive cross-sectoral legislation and policies that drive DRR mainstreaming. Thus, the national legislation, policies and strategies provide DRR mainstreaming across sectors. Vertical integration on the other hand indicates the extent to which a particular governmental sector has adopted and sought to implement DRR national policy objectives. The assumption here is that, and consistent with the DRR mainstreaming principles, the government agency that 'owns' the DRR legislation, policy and strategies has adequate power and authority to influence sectors to integrate DRR into their policies and strategies.

Figure 1: Horizontal and Vertical Dimensions of DRR Mainstreaming

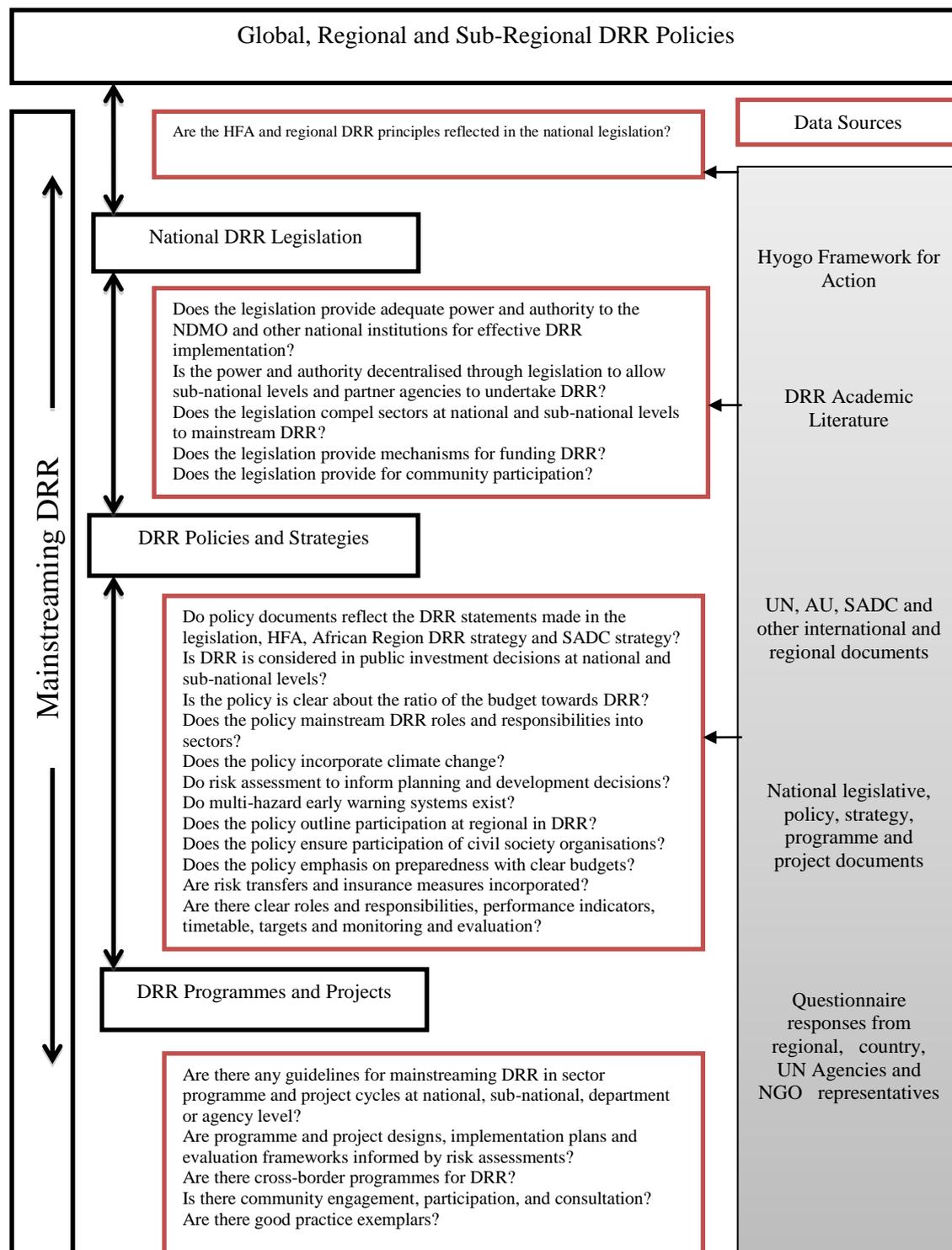


Adapted from Lafferty and Hovden (2003)

Notwithstanding that DRR and CCA mainstreaming into national policy agendas requires both “sophisticated policy analysis as well as an institutional structure which allows problems to be dealt with on a multi-level and multi-sectoral basis (Rayner and Howlett 2009:170), implementation of cross-cutting issues such as DRR and CCA are likely to be achieved if sector-wide approaches involving multiple agencies are adopted.

Figure 2 outlines the framework for assessing DRR mainstreaming developed for this study. The conceptual framework assumes DRR mainstreaming has four dimensions: global, regional and sub-regional policy regime, national legislation, policies and strategies, and programmes and projects. To examine the extent to which each of these dimensions mainstream DRR, guiding rather than prescriptive questions are provided. At the apex are the overarching global, regional and sub-regional policy commitments by SADC member states by ratifying the HFA in 2005, the African DRR strategy and the SADC DRR strategies. The assumption here is that the DRR legislative, policy and strategic frameworks are consistent and coherent with the global, regional and sub-regional frameworks.

Figure 2: Framework for Assessing DRR Mainstreaming



Source: Author

The national legislative frameworks are not only examined for their consistency and coherence with global, regional and sub-regional frameworks, but also include such things as the power and authority for the NDMO to effectively implement DRR, the roles and responsibilities of sectors, the extent to which DRR is decentralised, community participation and the funding mechanisms for DRR.

Similarly, the national, sector and cooperating partners' policy and strategies are assessed for their consistency with global, regional, sub-regional and national policy frameworks. Of major concern here is the extent to which these frameworks explicitly embed the DRR mainstreaming tools in Table 2 into, among others, WASH, education, agriculture and social protection programmes and projects. These tools include HVCA, EIA and SIA.

4. METHODOLOGY OF THE ASSESSMENT

4.1 Sampling

As this is an exploratory study, it has not used probability sampling where participants are selected at random from a population to make generalisations and statistical inferences. Rather, the secondary and primary data was derived from consultations with purposively sampled countries, institutions and organisations in the region. Purposive sampling, also known as judgmental, selective or subjective sampling, is a type of non-probability sampling where the selection of participating countries was a joint exercise between the consultant, UNECA and partners. The country selection criterion was based on the level of disaster risk using the World Risk Index (WRI) and on the level of development using the Human Development Index (HDI). Table 2 shows the WRI and HDI for the countries that were selected ranged from low to high or very high. It was assumed such a criterion would ensure the results were as representative as possible. However, Malawi and Mozambique were assessed as in-depth studies and the extent to which they have mainstreamed DRR are included in this report.

Table 2: Participating countries in DRR mainstreaming study

Country	Reason for selection	
	World Risk Index	Human Development Index
Malawi*	High	Low
Mauritius	Very High	High
Mozambique*	High	Low
Namibia	Medium	Medium
South Africa	Low	Medium
Zambia	High	Low
Zimbabwe	High	Low

4.2 Data Collection Tools

The study adopted a two main data collection approaches: a desk review and stakeholders consultations.

Desk Research and Review

The secondary data was derived from both the academic and grey DRR literatures. These included data from international, regional and national policy documents and

reports. Most of these documents were available electronically on websites such as CRED, relief web and prevention web. Table 3 provides a list of some of the key documents that were analysed.

Table 3: Some of the documents that were reviewed

Global Documents	
Name	Source
Hyogo Framework for Action 2005-2015	UNISDR Prevention web
HFA Mid-Term Review	UNISDR Prevention web
DRR Global Assessment Reports, 2009, 2011 & 2013	UNISDR Prevention web
UNFCCC/IPCC various reports	UNFCCC/ IPCC websites
HFA Putting words into Action	ISDR/World Bank
Global Assessment Report on DRR	ISDR
World Disaster Reports	IFRC
Human Development Reports	UNDP
Natural Hazards and Unnatural Disasters	World Bank
Tools for Mainstreaming DRR	Prevention web
Country Progress Reports on HFA implementation	UNISDR
Making Development Climate Resilient: A World Bank Strategy for Sub-Saharan Africa	World Bank
Regional and sub-regional documents	
Africa DRR strategy	UNISDR website
Africa Guidelines for Mainstreaming DRR 2004	UNISDR website
Africa Regional Platform Reports	UNISDR website
UNFCCC/IPCC various reports on Africa	UNFCCC/IPCC websites
AU HFA Progress Reports	UNISDR website
SADC DRR strategy and reports	SADC Secretariat
SADC Climate Change strategy and reports	SADC Secretariat
National documents	
DRR legislations, policies and strategies	NDMO
Sector policies	NDMO
UNDAF documents	UNDP websites
Programme reports	Emails
Good practice case studies (reports)	Emails
Partner documents	
Policy documents and reports	Partners through emails
Good practice case studies (reports)	Emails

The literature and documentation review served two main purposes:

- a. provided background information on hazards, vulnerability and capacity to implement DRR in the SADC region – thus providing justification for the ECA/UNISDR project intervention; and
- b. helped identify main tools and approaches, gaps, synergies and good practices in mainstreaming and implementing DRR in the SADC region.

Stakeholder consultations

Consultations with stakeholders were in two forms.

1. *Semi-structured questionnaire*: A semi-structured questionnaire was the main primary data collection tool (Annex 2). The choice for the semi-structured questionnaire was mainly based on availability of resources provided by ECA. As the questionnaire was emailed to participants, it was much cheaper than using face-to-face interviews. Although face-to-face interviews would have allowed the consultant, for example, to probe deeply into issues of interest to enrich the data, that would have been expensive as it would have involved travelling to respective countries in the region to interview participants. Out of about 80 people who were contacted by email, only four questionnaires were returned.
2. *Feedback workshop*: The preliminary findings were presented at a workshop involving xxx participants in Gaborone, Botswana, not only to enlist further reactions but also to gather more data from them (participants).

Thus, this study used at least three sources of data to allow for triangulation, a commonly accepted way of increasing the validity and reliability of the results.

4.3 Data analysis

Three steps were adopted in data analysis:

Step 1 - Literature Review: The literature review into DRR mainstreaming was conducted. This included the grey literature from UN agencies and NGOs.

Step 2 – Content analysis: The contents of legal, policy, strategy, programme and project documents were reviewed guided by questions in Figure 2. Each document was subjected to key words search in Box 1.

Box 1: Key words used for searching documents

adaptation, assessments, cholera, climate change adaptation, climate change, cyclone, disaster risk management, disaster risk reduction, disaster, disease, drought, earthquake, emergency preparedness, emergency response, emergency, epidemic, fire, flood, hazard, humanitarian, Hyogo Framework, livelihoods, mainstream, malaria, mitigation, prevention, reconstruction, recovery, rehabilitation, relief, resilience, risk, safety nets, social protection, storm, vulnerability
--

After the key word search and reading of the document, each of the indicators in Figure 2 was sought and then scored with a quality ranking of 1 to 5 (Table 4). To ensure consistency with the general DRR policy and practice, the document scoring matrix is a simplified HFA monitor used by countries to monitor progress. The scores for each document were added up to indicate the extent to which the document reflects DRR and CCA mainstreaming. These were summarised in templates: national legal framework; national policy; national strategy and plan; and sector policies, plans and strategies (see Tables 24-30).

Table 4: Document scoring matrix

Description	Score
Poor, indicator not fulfilled	1
Weak, indicator only partially fulfilled	2
Fair, indicator somewhat fulfilled	3
Good, indicator almost fulfilled	4
Excellent, indicator fulfilled	5

Step 3: Questionnaire:

The questionnaire was assessed according to the way the questionnaire is structured: national legal framework; national policy; national strategy and plan; and sector policies, plans and strategies.

4.4 Good Practice Case Studies

Five good practice case studies were chosen on the basis of their use of DRM tools, key success factors and challenges, lessons learned and potential for replication. The choice of the case studies was based on the extent to which they met or entailed, where applicable, a combination of the following attributes among others:

- Addressing/managing cross-border disaster risks and disasters;
- Ownership of the practice/measures/interventions by various stakeholders;
- Adequate backing by a sound statistical and information basis;
- Participation and involvement of all stakeholders including non-traditional DRR interest groups;
- Effective institutional arrangements for DRR;
- Consideration of the social, economic and environmental dimension;
- Moving from policy/strategy and plans to concrete on the ground results;
- Effectiveness and successfulness of the practice in DRR and enhancing resilience;
- Replicability of the intervention/practice, where applicable;
- Sustainability of proposed/adopted measure/practice.

4.5 Limitations of the study

The challenges faced in conducting this study are consistent with limitations of studies that are largely desk-based. There were three main limitations:

- a. *Limited access to data:* Although DRR legal and policy frameworks were easily accessible through prevention web, accessing sector policies, strategies and good practice case studies posed difficulties. In most cases using key words to search for documents using Google Search Engine and visiting web pages of government ministries and departments did not yield required results. Requests were sent to NDMO through emails and telephonic

means but a negligible number of documents were received. However, it is hoped that more good practice cases studies will be received after the discussion of the preliminary findings at the workshop to be held in Gaborone, Botswana.

- b. *Use of documents as primary source data source:* Government, UN agencies and NGO documents may be subjected to political forces that may skew the content to suit the status quo suggesting that the documents may not reflect the reality on the ground. Recognising this limitation, gaps that were identified in the documents were followed up through emails, telephone and during discussions at the Gaborone workshop.
- c. *Limited consultations:* With resources allowing, this study could have benefited from wider consultations, including field-based individual and group interviews involving DRR actors.

5. SOUTHERN AFRICA HAZARD PROFILE

This section presents the hazard profile of the SADC region. The first section outlines level of disaster risk in SASDC while the second section outlines the hazard profile using the UNISDR classification. The hydro-meteorological hazards tend to be the commonest triggers of disasters in the SADC region.

5.1 Levels of disaster risk in SADC

Table 5 reveals variations in the level of risk, exposure¹, vulnerability, susceptibility² and coping³ and adaptive⁴ capacities in SADC. Risk is defined using the shorthand notation [Risk = Hazard x Vulnerability] as the interaction between a natural hazard event and the vulnerability of the exposed element or society. Vulnerability includes social conditions and processes in terms of susceptibility as well as coping and adaptive capacities.

The top five vulnerable countries to disasters in SADC are Mozambique, Madagascar, Zimbabwe, Tanzania and Malawi. Seychelles, Botswana, South Africa, Namibia and Swaziland have relatively lower risk indices compared with the rest of SADC countries. Mozambique has the lowest coping and adaptive capacity while Zimbabwe has the lowest coping capacity in the SADC region. Of the island states,

¹ Exposure to five hazards: earthquakes, storms, floods, droughts and sea level rise.

² Susceptibility: public infrastructure, housing conditions, nutrition, poverty and dependencies, economic capacity and income distribution.

³ Coping and coping capacities include the capacities of societies and exposed elements (such as systems and institutions) to minimize the negative impact of natural hazards and climate change through direct action and resources. These includes the coping capacity of government and authorities, disaster preparedness and early warning, medical services, social networks and material coverage.

⁴ Adaptation includes capacities, measures and strategies that enable communities to change in order to address expected negative consequences of natural hazards and climate change. These include education and research, gender equity, environmental status/ecosystem protection, adaptation strategies, and investments.

Mauritius and Madagascar have higher levels of exposure to hazards than inland states. Thus, notwithstanding that Mauritius has lowest vulnerability index (40.24%) due to its low susceptibility and relatively higher coping and adaptive capacities, it is one of the countries at high risk due to exposure to hazards, particularly sea level rise and storms.

Table 5: Level of disaster risk in SADC⁵

Country	World Rank (out of 173)	Risk Index	Exposure	Vulnerability Index	Susceptibility	Lack of coping capacities	Lack of adaptive capacities
Madagascar	13	14.46	20.68	69.91	67.51	85.65	56.57
Mauritius	26	11.91	29.59	40.24	19.57	60.08	41.08
Mozambique	40	9.98	13.86	71.95	68.19	86.16	61.52
Zimbabwe	42	9.63	14.3	67.33	55.7	89.03	57.26
Malawi	53	8.99	13.73	65.48	56.63	86.05	53.76
Tanzania	56	8.64	12.91	66.97	65.43	83.03	52.46
Zambia	59	8.41	12.89	65.27	61.63	81.72	52.47
Angola	62	8.02	12.88	62.28	53.64	82.84	50.35
Lesotho	64	7.86	12.46	63.12	52.04	83.46	53.86
DRC	68	7.71	12.19	63.28	50.98	87.39	51.45
Swaziland	74	7.37	11.98	61.56	48.56	83.1	53.02
Namibia	92	6.63	11.76	56.41	48.32	75.21	45.69
South Africa	107	5.71	12.42	46.02	31.04	67.72	39.31
Botswana	108	5.56	11.52	48.26	30.25	68.14	46.4
Seychelles	157	2.68	6.09	43.97	21.16	71.65	39.1

As already stated, UNISDR classifies hazard into geological, hydrometeorological, biological, technological and environmental hazards (Table 6).

Table 6: Hazard classification

Origin	Examples
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⁵ Source: UNU World Risk Report (2011) <http://www.ehs.unu.edu/file/get/9018>

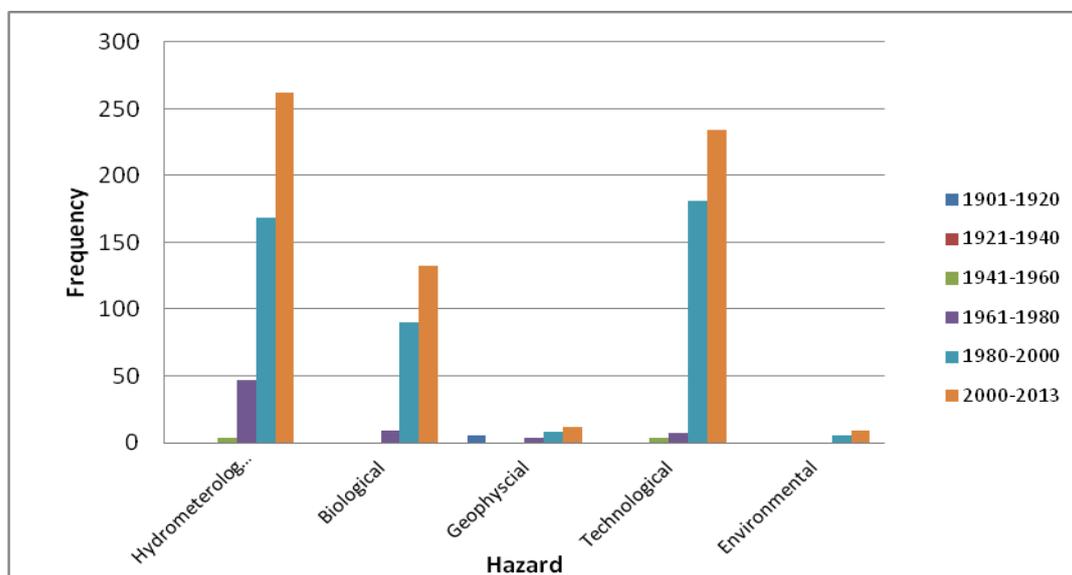
<p>Hydrometeorological hazards Natural processes or phenomena of atmospheric, hydrological or oceanographic nature</p>	<p>Floods, debris and mudflows; Tropical cyclones, storm surges, wind, rain and other severe storms, blizzards, lightning; Drought, desertification, wildland fires, temperature extremes, sand or dust storms; Permafrost, snow avalanches</p>
<p>Geological hazards Natural earth processes or phenomena that include processes of endogenous origin or tectonic or exogenous origin, such as mass movements.</p>	<p>Earthquakes, tsunamis; Volcanic activity and emissions; Mass movements, landslides, rockslides, liquefaction, submarine slides; Surface collapse, geological fault activity</p>
<p>Biological hazards Processes of organic origin or those conveyed by biological vectors, including exposure to pathogenic micro-organisms, toxins and bioactive substances.</p>	<p>Outbreaks of epidemic diseases, plant or animal contagion and extensive infestations</p>
<p>Technological hazards Danger associated with technological or industrial accidents, infrastructure failures or certain human activities which may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation, sometimes referred to as anthropogenic hazards.</p>	<p>Industrial pollution, nuclear release and radioactivity, toxic waste, dam failure, transport, industrial or technological accidents (explosions, fires, spills)</p>
<p>Environmental degradation Processes induced by human behaviour and activities (sometimes combined with natural hazards) that damage the natural resource base or adversely alter natural processes or ecosystems. Potential effects are varied and may contribute to an increase in vulnerability and the frequency and intensity of natural hazards.</p>	<p>Land degradation, deforestation, desertification, wildland fires, loss of biodiversity, land, water and air pollution, climate change, sea level rise and ozone depletion</p>

5.2 Hazard Trends in SADC Region

Figure 3 shows the trend of hazard occurrence between 1900 and 2013. The occurrence of hazards is increasing with the hydrometeorological hazards having the highest frequency. The increase in the frequency of hydrometeorological hazards may be associated with climate change. The 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 to industrial and traffic accidents.

Similarly, the frequency of biological hazards has increased over the decades. Climate change and rapid urbanisation in SADC could have increased the risk of biological hazards occurrence. Heavy rains, storms and cyclones tend to trigger flooding which increase the risk of water-borne diseases such as malaria and gastro-intestinal infections (GII). Equally, water scarcity resulting from drought tends to increase the risk of GII, 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 the vegetation is destroyed, through, for example, wild and veldt fires which have become one of the major concerns in SADC. The geophysical hazards have the lowest frequency of occurrence. 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, and recover from disasters triggered by these hazards.

Figure 3: Trends of hazards



Source of Data: CRED, 2013

5.3 Hydrometeorological Hazards

Climate change is expected to further increase the hydro-meteorological hazards in the sub-region. With large river basins in the sub-region such as the Limpopo and the Zambezi, flooding is a regular occurrence in such countries as Mozambique and Malawi.

Drought

Of all the hydrometeorological hazards, drought tends to be the commonest hazard in SADC. A drought is a slow-onset event that can cause agro-ecological damage and disrupt socio-economic status of a country or region. Droughts occur when rainfall is well below average or when mid-season dry spells are experienced. Technically, there are three types of droughts: meteorological, hydrological and

agricultural droughts. Table 7 shows the frequency, number of people killed and affected, and the damage caused by droughts across the SADC region between 1900 and 2013.

Table 7: Drought hazards in SADC 1900-2013

Country	Frequency	Killed	Injured	Affected	Damage \$
Mozambique	12	100068	0	17757500	50000
Tanzania	10	0	0	12737483	0
South Africa	8	0	0	17475000	1000000
Namibia	7	0	0	1083200	51000
Angola	7	58	0	4443900	0
Malawi	7	500	0	21578702	0
Botswana	6	0	0	1344900	3000
Lesotho	6	0	0	2736015	1000
Madagascar	6	200	0	3515290	0
Zimbabwe	6	0	0	14822618	51000
Swaziland	5	500	0	1630000	1739
Zambia	5	0	0	4173204	0
Congo	2	0	0	800000	0
Seychelles	-	-	-	-	-

Source: CRED (2013)

Table 7 reveals that Mozambique has the highest frequency of drought occurrence and loss of lives while Malawi has the highest number of people affected by drought. South Africa incurs the highest economic losses from drought, with almost double the losses of Mozambique, Namibia and Zimbabwe. All of these droughts were linked to the occurrence of El Nino – Southern Oscillation (ENSO) phenomenon on the Pacific Ocean. ENSO is a complex interaction of the tropical Pacific Ocean and the global atmosphere that results in irregularly occurring episodes of changed ocean and weather patterns in many parts of the world, often with significant impacts over many months, such as altered marine habitats, rainfall changes, floods, droughts, and changes in storm patterns (UNISDR, 2009). El Nino is the warm oceanic phase, which accompanies high air surface pressure in the western Pacific. The extremes of El Nino phenomenon cause extreme weather such as floods and droughts. Over the recent decades, SADC has been struck by four major droughts in recent decades: 1991-1992, 1994-1995, 2000-2001 and 2005-2006. To the credit of SADC member states, while droughts tend to trigger food insecurity due to reductions in regional food production, these droughts have not led to famine suggesting some level of resilience.

Floods

Floods have increasingly become a frequent phenomenon in recent decades. Flooding is a temporal inundation of land that is not normally under water. It is caused by several factors. These include high rainfall intensity, falling of generally flat terrain, rivers bursting over their banks, dam breaks and back flows. In SADC social vulnerability to flooding is a function of exposure of communities in relation to

rivers especially river confluences, terrain configuration, and type of building structures. Table 8 presents the frequency and the socio-economic impacts of flooding in SADC region between 1900 and 2013. Table 8 reveals that although Tanzania has the highest frequency of flood occurrence, Mozambique tends to have the highest number of people affected while South Africa suffers most economic losses.

Table 8: Flood Hazard 1900-2013

Country	Frequency	Killed	Injured	Total Affected	Damage \$
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: CRED (2013)

The 1999-2000 floods are cited as the worst floods which triggered a region-wide disaster in Southern Africa. Half a million homes were destroyed with more than a million people affected with a high risk of water-borne diseases, including GII. The floods are likely to increase due to the impact of climate change.

Cyclonic Storms

Cyclonic storms have become one of the major concerns in SADC. Cyclonic storms are areas of low pressure over tropical and sub-tropical water which builds up into huge, circulating masses of wind and thunderstorms of up to 100s of kilometres. Tropical cyclones which affect SADC mainly form in the South West Indian Ocean between October and April. These tropical cyclones tend to be associated with strong winds, lightning and thunderstorms. The surface winds can reach up 200 km/hr or more killing people and destroying livelihoods and property.

Table 9 shows the frequency and impacts of storms in SADC between 1900 and 2013. Madagascar has the highest frequency of storm occurrence, and almost double the second-placed South Africa. As a result, Madagascar has the highest number of people killed and affected, and economic losses from storms. Although Mozambique is ranked third in terms of frequency of storm occurrence, it ranks

second to Madagascar in terms of number of people killed, injured and affected by storms. South Africa ranks second in relation to economic damage.

Table 9: Storm Hazards 1900-2013

Country	Frequency	Killed	Injured	Total Affected	Damage \$
Madagascar	50	2535	4373	9554793	2077301
South Africa	26	275	1339	644015	764041
Mozambique	22	684	2181	3689326	113550
Mauritius	18	70	1914	1029263	626373
Lesotho	6	1	1	6751	0
DRC	5	49	2650	103036	0
Tanzania	4	4	7	3782	0
Swaziland	3	54	0	640185	54152
Zimbabwe	3	19	0	0	1200
Malawi	2	11	8	6008	0
Seychelles	2	0	0	8000	9300
Botswana	1	0	0	400	0
Angola	-	-	-	-	-
Namibia	-	-	-	-	-
Zambia	-	-	-	-	-

Source: CRED (2013)

Mass Movement

Mass movement tends to be associated with the movement of surface material down-slope caused by gravity, with aid of agents such as water, wind and ice. Landslides and rock falls are examples of mass movements. Although Table 10 shows that mass movements occurrence has a low frequency and negligible economic damages, the likelihood of these occurring might increase considering the impact of climate change and environmental degradation. High rainfall over a short period of time might add weight to the soils and decrease resistance to cause mass movements, particularly in degraded environments.

Table 10: Mass movements in SADC 1900-2013

Country	Frequency	Killed	Injured	Affected	Damage \$
DRC	4	212	7	2083	0

Angola	1	13	0	0	0
Mozambique	1	87	0	2500	0
South Africa	1	34	0	0	0
Tanzania	1	13	0	150	0
Zambia	1	9	0	150	0
Botswana	-	-	-	-	-
Lesotho	-	-	-	-	-
Malawi	-	-	-	-	-
Mauritius	-	-	-	-	-
Namibia	-	-	-	-	-
Seychelles	-	-	-	-	-
Swaziland	-	-	-	-	-
Zimbabwe	-	-	-	-	-

Source: CRED (2013)

5.4 Geophysical Hazards

Geophysical hazards that affected SADC are mainly earthquakes and volcanoes. Countries along the Rift Valley (stretching from Eritrea to Mozambique) are particularly vulnerable to earthquakes. An earthquake is a sudden, sometimes violent movement of the earth's surface caused by the interaction of plate tectonics, usually triggered by the release of underground stress along fault lines. The shaking or trembling is caused by sudden release of energy. Vibrations called seismic waves are generated and travel both through the earth and along the surface. These seismic waves cause the movement we call earthquakes. Earthquakes are associated with faulting or breaking of rocks. After an earthquake, continuing adjustments results in aftershocks. Vibrations of the earth spread in waves from point of rupture or epicentre and may extend over several hundred of kilometres. Shaking of the ground may or may not be felt, depending on several factors such as distance from the epicentre and soil types. Table 11 shows the countries that are (recorded by CRED to be) prone to earthquakes. Although Table 11 reveals that Tanzania has the highest frequency of earthquake occurrence, Malawi tends to have more people affected while Seychelles suffers most in economic damages.

Table 11: Earthquakes in SADC region 1900-2013

Country	Frequency	Killed	Injured	Affected	Damage \$
Tanzania	10	19	6	8991	0
South Africa	8	70	163	1448	20000
Malawi	3	13	286	70836	28000
DRC	3	44	661	21266	7200
Seychelles	1	3	0	4830	30000
Mozambique	1	4	36	1476	0

Source: CRED (2013)

In relation to volcanoes, countries along the Rift Valley and on Indian Ocean islands are at risk of volcanic events. Several volcanoes are known to be active, including Mount Nyiragongo in the Democratic Republic of Congo (DRC) and Mount Karthala

on the Comoros. Between 1900 and 2013 the DRC has experienced three volcanoes resulting in 347 deaths, 170,000 people affected and \$9 million in economic damage (CRED, 2013).

5.6 Biological Hazards

The common biological hazards in SADC include gastrointestinal Infections (GII), malaria, measles and HIV and AIDS crop pest and animal diseases or zoonotics. Of the GII, cholera is the commonest. According to a 2007 WHO Report, the African region accounts for over 90% of the total cases of cholera. In SADC cholera has become endemic particularly in Angola, Malawi, Mozambique, Zambia and Zimbabwe. In these five countries alone, an estimated 318,400 cases of cholera has been reported between 2006 and 2012⁶. The unprecedented cholera outbreak in 2008/9 in Zimbabwe resulted in about 100,000 cases and 4000 deaths. This suggests SADC is at high risk of GII particularly cholera, typhoid and dysentery. HIV and AIDS is one of the major concerns in SADC. Sub-Saharan Africa, where SADC falls, remains the most heavily affected region in the global HIV epidemic. In 2011, an estimated 23.5 million people living with HIV resided in sub-Saharan Africa, representing 69% of the global HIV burden. In addition, 92% of pregnant women living with HIV and more than 90% of children who acquired HIV in 2011 resided in sub-Saharan Africa⁷. In relation to malaria, approximately 80% of cases and 90% of deaths are estimated to occur in Sub-Saharan Africa, with children under five years of age and pregnant women most severely affected. In 2010, the DRC, one of the SADC member states, and Nigeria accounted for 40% of malaria deaths worldwide⁸. Table 12 summarises the frequency of epidemics that have occurred in SADC between 1900 and 2013. Crop pests which are common in SADC include quelea birds, armyworm, locusts and larger grain borer while the zoonotics include rabies, anthrax, Foot and Mouth, Newcastle Disease, blackleg, botulism and emerging dangerous diseases such as Bird Flu and Swine Flu.

Table 12: Frequency and impact of epidemics in SADC 1900-2013

Country	Frequency	Killed	Injured	Affected	Damage \$
DRC	68	9528	33	715647	0

⁶ OCHA (2012) **Humanitarian Bulletin** Southern Africa Issue 12 | August 2013
http://reliefweb.int/sites/reliefweb.int/files/resources/ROSA%20Humanitarian%20Bulletin_August%202013_Cholera.pdf

⁷ UNAIDS (2012) fact sheet <http://www.unaids.org/en/regionscountries/regions/easternandsouthernafrica>

⁸ World Malaria Report (2012)
www.who.int/malaria/publications/world_malaria_report_2012/report/en/index.html

Tanzania	29	6673	0	96389	0
Mozambique	26	3037	0	366864	0
Zimbabwe	21	6337	0	622778	0
Zambia	18	1244	0	65545	0
Malawi	13	1670	0	63010	0
South Africa	7	336	0	112385	0
Namibia	6	274	0	12656	0
Swaziland	3	142	0	3677	0
Mauritius	2	0	0	2661	0
Seychelles	1	0	0	5461	0

Source: CRED (2013)

5.7 Technological Hazards

These include industrial and traffic accidents. Tables 13-15 present data on industrial, traffic and miscellaneous accidents in SADC between 1900 and 2013. In all cases, South Africa has the highest frequency of technological hazards in SADC. However, although Mozambique ranks 6th on traffic accidents, it has the highest number of people affected by traffic accidents. Similarly, although Tanzania ranks 2nd on miscellaneous accidents, it has the highest number of people affected by miscellaneous accidents.

Table 13: Industrial Accidents in SADC 1900-2013

Country	Frequency	Killed	Injured	Affected	Damage \$
South Africa	18	1213	377	2212	67700
DRC	13	325	36	36	0
Zambia	5	155	0	1300	0
Mozambique	3	171	100	200	3700
Tanzania	2	142	0	0	0
Angola	1	5	100	100	0
Zimbabwe	1	20	1	1	0
Botswana	1	0	0	0	0

Table 14: Traffic Accidents in SADC 1900-2013

Country	Frequency	Killed	Injured	Affected	Damage \$
South Africa	133	2636	4887	5481	0
DRC	100	5147	1373	3130	0

Tanzania	62	2901	1512	2343	0
Angola	39	1644	541	541	0
Zimbabwe	31	840	1089	1689	0
Mozambique	22	950	599	50706	0
Zambia	22	994	259	349	0
Malawi	15	412	526	526	0
Madagascar	8	240	46	60	0
Mauritius	2	170	0	0	0
Namibia	2	39	0	9	0
Swaziland	2	52	59	59	0
Lesotho	1	40	60	60	0
Seychelles	1	0	0	0	0

Table 15: Miscellaneous Accidents in SADC 1900-2013

Country	Frequency	Killed	Injured	Affected	Damage \$
South Africa	15	311	301	13335	0
Tanzania	8	197	1123	20989	0
Angola	5	130	204	204	0
DRC	5	206	308	308	0
Zimbabwe	3	42	300	300	0
Madagascar	2	14	5	505	50
Zambia	2	15	79	229	0
Malawi	1	11	0	0	0
Mozambique	1	117	450	450	0

5.8 Environmental Degradation

Environmental degradation is caused by veld fires, pollution (air, water and land pollution), mining, deforestation, land degradation (gully formation, erosions and land collapse) streambank cultivation, improper wetland utilisation, alien invasive species, over utilisation of arable land and human-wildlife conflict.

Veld fires have become a frequent phenomenon resulting in loss of lives and livelihoods. Angola, Zambia, Mozambique, DRC and Tanzania were the top five countries that showed the most fire activity between 2001 and 2007⁹. Over 50% of the land area of these countries is affected by fire, and much of this area burned more than four times in the 8-year period (return period of approximately 2 years).

Deforestation in the SADC region is a growing concern and one of the priority areas for regional action. The average deforestation rate, the rate of loss of cover, in SADC region is about 0.6% which translates to about 1.4 million hectares lost per annum. This rate of loss of forest cover ranges from 1.2% in Swaziland to -2.4% in Malawi.

⁹ SADC (2010) Regional Fire Management Programme

Deforestation is highest in Zambia and Malawi where it is estimated at -2.4%. Nevertheless, there were positive improvements in forest cover of 1.2% in Swaziland in 2001. Deforestation in the SADC countries is mainly from conversion of forestland to agriculture, a high dependence on wood as an energy source and uncontrolled frequent, but very late fires. In Malawi, for example, the main causes of deforestation are cited as high population growth rate in relation to available land, poverty, market and policy failures, drought, uncontrolled tree felling for fuelwood to cure tobacco in both the small and large scale farming sectors, opening up of new gardens and farming areas, firewood for commercial purposes, overstocking and infra-structural development¹⁰.

6. VULNERABILITY PROFILE

That a natural hazard event will develop into a disaster is partly a function of its magnitude. The vulnerability and resilience of the communities play a substantial role for a natural event to develop into a disaster. Communities who have installed prevention, mitigation, preparedness and response systems can substantially lower the occurrence and the impact of disasters. To this end they mobilise resources and are better equipped to respond to, and recover from disasters.

The SADC region is generally vulnerable to disasters with poverty, institutional capacity, climate change, social protection and cross-border influx being among the key determinants.

6.1 Poverty: an underlying cause of vulnerability in SADC

Disasters affect everyone. But they impact the poor and vulnerable most. Poverty is one of the major factors increasing human and social vulnerability to disasters. Reduced coping and adaptive capacity following a disaster tends to be underpinned by poverty. At least 94% of all people killed by disasters from 1975-2000 were from low income or lower-middle income people. The poorest people comprised 68% of deaths from disasters¹¹. Low income countries account for more than 70% of the world's disaster 'hotspots'. The world's poor, a third of whom live in multi-hazard zones, are the most vulnerable to disaster risks. Since 1980, low income countries have accounted for only 9% of the disaster events but 48% of the fatalities¹². Vulnerability to disasters and poverty are intricately linked in SADC. Table 16 uses a few poverty indicators to illustrate the level of development in SADC when compared with the rest of the world.

Table 16: Some of the surrogate indicators of vulnerability

¹⁰ See FAO www.fao.org/docrep/005/ac850e/ac850e06.htm#bm06 and SADC Policy Paper on Climate Change 2012

¹¹ UNISDR and UNPD (2008) Linking Disaster Risk Reduction and Poverty Reduction Good Practices and Lessons Learned: A Publication of the Global Network of NGOs for Disaster Risk Reduction, Geneva http://www.unisdr.org/files/3293_LinkingDisasterRiskReductionPovertyReduction.pdf

¹² World Bank (2013)

<http://web.worldbank.org/WBSITE/EXTERNAL/NEWS/0,,contentMDK:21924919~menuPK:34480~pagePK:64257043~piPK:437376~theSitePK:4607,00.html>

World Category	Country	HDI	Life expectancy	Population on less than \$1.25/day	Infant mortality rate	HIV Prevalence rate	Corruption Perception Index (N=174)
Very High HDI	Seychelles	0.806	73.8	0.3	11.6	-	51
High HDI	Mauritius	0.737	73.5	..	10.89	1.2	43
Medium HDI	Botswana	0.634	53	..	9.90	23.0	30
	South Africa	0.629	53.4	13.8	42.15	17.9	69
	Namibia	0.608	62.6	31.9	45.62	13.3	58
	Swaziland	0.536	48.9	40.6	57.19	26.5	88
Low HDI	Angola	0.508	51.5	..	81.75	2.3	157
	Madagascar	0.483	66.9	81.3	46.13	0.5	118
	Tanzania	0.476	58.9	67.9	45.1	5.1	102
	Lesotho	0.461	48.7	43.4	51.93	23.1	64
	Zambia	0.448	49.4	68.5	68.58	12.7	88
	Malawi	0.418	54.8	73.9	76.98	10.8	88
	Zimbabwe	0.397	52.7	..	27.25	14.7	163
	Mozambique	0.327	50.7	59.6	74.63	11.1	123
	DRC	0.304	48.7	87.7	72.45	1.1	160

Source: Human Development Report (2013); UNAIDS (2013); CPI (2013)

In the exception of Seychelles and Mauritius which are in very high and high HDI countries categories, the rest of SADC countries fall either in medium or low HDI. Of the low HDI countries, Lesotho, Zambia, Malawi, Zimbabwe, Mozambique and DRC fall below the sub-Saharan Africa average HDI of 0.475. Similarly, countries with low HDI tend to have high number of people living on less than \$1.25 per day with Madagascar and DRC having a proportion of more than 80%. Also, in the exception of Zimbabwe, the majority of low HDI countries have high infant mortality rates. In addition, the majority of low HDI countries also have corruption indexes. Moreover, notwithstanding the progress, more than half of the SADC countries HIV and AIDS prevalence above 10% with Swaziland having the highest 26.5%. This suggests that the high levels of poverty tend to undermine disaster risk reduction progress in SADC.

6.2 Climate change increasing exposure to disaster risks

The SADC region is likely to be one of the hardest hit regions by the impact of climate change. Annex 3 provides a summary of likely climate change impacts. Temperature and rainfall are the two main climate parameters that are used in detecting global warming and changes in climate. The temperatures in SADC are generally on the increase, especially the minimum temperatures. The temperatures are expected to warm by between 1.0 and 3.0°C by 2080. Changes in rainfall also pose great challenges for the SADC region particularly in relation to agriculture, water, health and other key socio-economic sectors. The changes in rainfall are best expressed as changes in intensity and extreme rainfall events (storms) and changes in the rainfall season (onset, cessation and length). Moreover, since 1950, the SADC region has also witnessed a downward trend in rainfall, with a number of countries experiencing changes in the length of growing season. A combined change in temperature and rainfall will increase the exposure of communities to disasters in the SADC region, for example:

- Warmer temperatures will increase malaria risks in places where malaria is not endemic, particularly in South Africa and Zimbabwe.

- A combined change in temperature and rainfall will have a negative impact on the productivity of both the rangeland, grazing and food production¹³. More heat stress to natural ecosystems and agricultural crops, and rainfall variability will result in drop in yields from rain-fed agriculture of up to 50% during the 2000-2020 and up to 90% by 2100, with small-scale farmers being the most severely affected.
- Increase in desertification particularly in northern South Africa, Angola and Zambia
- Increase in health problems, particularly the GII that will be exacerbated by reduced access to safe drinking water and sanitation and depletion of underground water due to changes in runoff and hydrology.
- Increased pressure on economies in responding to humanitarian crises resulting from increased frequency and intensity of hydrometeorological hazards such as cyclones, floods and droughts and associated biological hazards particularly the GII.

6.3 Social Protection Policies

Social protection policies and programmes aim to protect poor and vulnerable households from the shocks and stresses¹⁴ that have negative impacts on their wellbeing¹⁵. Jones et al (2010)¹⁶ differentiate social protection into social risk management strategies and protective, preventive, promotive and transformative measures (Box 2).

Box 2: Social Protection Strategies and Measures

Social risk management strategies	Protective, preventive, promotive and transformative measures
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¹³ SADC Policy Paper on Climate Change 2012

¹⁴ According to Chambers and Conway (1991), these are pressures which are cumulative and continuous, such as seasonal shortages and climate variability, soil degradation, population pressure, and shocks as sudden events such as floods, epidemics, droughts, but also wars, persecution and civil violence. [Chambers, R. and Conway, G. (1991) 'Sustainable Rural Livelihoods: Practical Concepts for the 21st Century'. Discussion Paper 296. Brighton: IDS].

¹⁵ Lindsey Jones, Susanne Jaspars, Sara Pavanello, Eva Ludi, Rachel Slater, Alex Arnall, Natasha Grist and Sobona Mtisi (2010) <http://www.odi.org.uk/sites/odi.org.uk/files/odi-assets/publications-opinion-files/5860.pdf>

¹⁶ Ibid.

<ul style="list-style-type: none"> • <i>Preventive strategies</i> are public measures to reduce the probability of risk • <i>Mitigation strategies</i> decrease the impact of a probable risk • <i>Coping strategies</i> relieve the burden of risk once it has occurred. 	<ul style="list-style-type: none"> • <i>Protective measures</i> provide relief from deprivation • <i>Preventive measures</i> seek to avert deprivation. • <i>Promotive measures</i> aim to enhance real incomes and capabilities of the poorest and most vulnerable populations while remaining grounded in social protection objectives. • <i>Transformative measures</i> seek to address vulnerabilities arising from social inequity and exclusion of the poorest and most marginalised groups.
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SADC has made attempts to reduce vulnerability to disasters through social protection-related instruments. These include the Declaration and Treaty of the SADC, the Charter of Fundamental Social Rights in the SADC, the Code on Social Security, the Protocol on Gender and Development, the Protocol on Health and the Protocol on Education. As SADC is at risk of disasters, Article 18 of the Code on Social Security urges Member States to ensure that their social security systems provide protection against special and collective risks, including political conflict and natural disasters. Member States should provide for special interventionist approaches to disaster relief at regional and country level, including prevention, relief, reconstruction and rehabilitation¹⁷. While SADC member states have made progress in social protection policies and programmes, particularly in relation to HIV and AIDS, for example, access to ARVs, there are still some challenges which have implications for DRR.

a. Access to health care: Health care in SADC countries is largely provided through a two-tiered system comprising of private and public sectors. The private health care system tends to be adequately resourced and accessible to those with medical insurance or medical aid schemes. The unemployed and the rural poor who cannot afford the private health care system mainly rely on the public health care system, which in the majority of cases, has inadequate infrastructure and a shortage of skilled personnel. In addition to these challenges, the absence of National Health Insurance systems in SADC countries increases the vulnerability of communities to preventable diseases of poverty¹⁸ such as malaria, Tuberculosis and HIV and AIDS.

b. Income security for children: In many SADC countries, there are social protection programmes targeted at orphans and vulnerable children (OVCs). These include *Orphan Care Benefit* in Botswana, *Minimum Income for School Attendance* in Mozambique, *Child Protection Programme* in Zambia, *Basic Education Assistance Module* in Zimbabwe and *Child Support Grant, Care Dependency Grant, Foster Care Grant, Social Relief of Distress* in South Africa¹⁹. However, despite the progress

¹⁷ Code of Social Security in the SADC (2007), Lusaka.

¹⁸ Nyenti. M and Mpedi, L.G. (2012) The Impact of SADC Social Protection Instruments on the Setting Up of a Minimum Social Protection Floor in Southern African Countries, Potchefstroom Electronic Law Journal Volume 15(1), pp. 244-281 <http://dx.doi.org/10.4314/pelj.v15i1.8>

¹⁹ Ibid.

particularly in South Africa, the value of the social security benefits aimed at children is generally low across the SADC region²⁰ meaning that children are inadequately protected against shocks and stresses arising from both natural and human origins.

c. Assistance for the unemployed and the poor: In the exception of Mauritius, which has an Unemployment Hardship Relief programme where an unemployed person with family responsibility is paid an income to meet household needs, none of the other SADC countries has an unemployment assistance programme²¹.

d. Income security for the elderly and persons with disabilities: SADC countries operate different schemes in support of the elderly and persons with disabilities. South Africa has a social assistance programme offering social grants among others to the indigent elderly members of the population and persons with disabilities. Botswana has a universal old-age pension programme covering all citizens of Botswana who are 65 years of age or older. Disability benefits in Botswana are provided under the destitute programme. Unlike Botswana, Mauritius' universal programme makes provision for an old-age pension, a disability pension and a survivor pension. In Namibia, cash benefits are provided for old age, disability, child support and foster-parent care²². However, these grants tend to:

- Have an urban bias – much to the neglect of the rural poor.
- Have low monetary value meaning that the benefits fail to adequately meet the needs of the beneficiaries.
- face administrative and institutional challenges such as poor levels of service, corruption and fraud²³.

6.4 Urbanisation

Africa is the world's most rapidly urbanising continent²⁴. UN HABITAT projects that Africa will have more people living in urban than rural areas by 2025²⁵. However, Southern Africa is urbanizing faster than any other region on the continent. By 2020 Angola, Botswana and South Africa will be more than two-thirds urbanised. And by 2030 another five southern African countries (Mozambique, Zimbabwe, Namibia, Mauritius, and the Seychelles) will be over 50% urbanized and another four (Zambia, Lesotho, Madagascar, and the Democratic Republic of the Congo) will be over 40% urbanized. Similarly, over a third of the population will be urbanized by 2030 in countries such as Swaziland, Tanzania, and Malawi. By 2050, the majority of

²⁰ Ibid.

²¹ Ibid.

²² Ibid

²³ Ibid.

²⁴ Pelling, M and Wisner B. (2009), *Disaster Risk Reduction: Cases from Urban Africa*, Earthscan. London.

²⁵ UN HABITAT (2010) *The State of African Cities: Governance, Inequality and Urban Land Markets*

countries in southern Africa are projected to be over 50% urbanized with Angola and Botswana being over 80% urbanized²⁶.

The growing urbanisation provides both opportunities and challenges for DRR. Unplanned and rapid urbanisation provide conditions for natural events such as earthquakes to become disastrous, and also modify physical environment, thus increasing risk to flooding, fires, public health concerns, traffic and industrial accidents. While urban areas can provide critical mass for human skill and capacity for resilience, they are increasingly become hotspots for disasters²⁷. The 2000 floods in Mozambique displaced about 4000 people in Maputo disrupting transport networks. Horrific fires in Alexandra, Johannesburg, are a product of informal settlement layout, overcrowding, highly combustible building materials and inadequate strategies for fire prevention compared with upper-class areas like neighbouring Sandton. In Harare and other cities in Zimbabwe, for instance, the geography of a major cholera outbreak in 2008-2009 shows that a majority of both cholera cases and fatal impacts were concentrated in deprived high-density suburbs. The capacity to provide services and infrastructure as well as to plan, invest and create jobs has declined in Maputo, Harare, Luanda and Lusaka²⁸.

6.5 Trans-boundary Risk

The SADC region has significant cross-border population flows which are increasingly contributing to vulnerability in Southern Africa. The Southern African region has experienced a culture of legal, illegal and refugee migrations for more than 150 years, a pattern which continues to grow despite official attempts to regulate it²⁹. The SADC states can be divided into migrant-sending (Mozambique, Malawi and Lesotho) and migrant-receiving states (South Africa and Namibia). A few, such as Botswana and Swaziland, fall into both categories. Others, such as Tanzania and Zambia, have experienced major refugee influxes in the last decade but do not tend to send or receive large numbers of labour migrants³⁰.

The population movements fit into the following categories: 1) seasonal displacement due to natural disasters, mainly flooding, primarily from Mozambique to Malawi and between Angola and Namibia along the Caprivi Strip; 2) refugees and asylum seekers; and 3) migrants of humanitarian concern which, according to OCHA, are people who cross borders fleeing extreme deprivation or generalised violence against themselves or their families. The 2008/9 Zimbabwe cholera

²⁶ UN HABITAT (2010) *The State of African Cities: Governance, Inequality and Urban Land Markets*, Nairobi; Crush, J. et al. (2012) *The Crisis of Food Insecurity in African Cities Hunger & Environmental Nutrition* 7 (2-3) 271-92.

²⁷ Pelling, M and Wisner B. (2009), *Disaster Risk Reduction: Cases from Urban Africa*, Earthscan. London.

²⁸ UN HABITAT (2010) *The State of African Cities: Governance, Inequality and Urban Land Markets*, Nairobi

²⁹ Said, M.D et al. (2011) *The case of cholera preparedness, response and prevention in the SADC region: A need for proactive and multi-level communication and co-ordination*
<http://dx.doi.org/10.4314/wsa.v37i4.15>

³⁰ Crush, J et al. (2005) *Migration in Southern Africa: A paper prepared for the Policy Analysis and Research Programme of the Global Commission on International Migration*
www.iom.int/jahia/webdav/site/myjahiasite/shared/shared/mainsite/policy_and_research/gcim/rs/RS7.pdf

epidemic became a regional disaster as it demonstrated how infectious diseases can quickly spread across borders. Eight SADC countries were affected by cholera, either as a result of the Zimbabwe outbreak or independently of it. These countries were Angola, Botswana, Malawi, Namibia, South Africa, Swaziland, Zambia and DRC³¹. The situation, according to Said et al. (2011)³², was aggravated by the influx of illegal immigrants into South Africa, coupled with inadequate water and sanitation facilities and poor hygiene at temporary processing centres for asylum seekers.

The vulnerability of SADC to disasters is well-summarised by UNPD (2012)³³ by notably:

- Approximately 40% Southern African population are classified as chronically food insecure;
- The impact of HIV and AIDS, especially on people's livelihoods - an estimated 35 per cent of all new HIV/AIDS infections and 38 per cent of all AIDS deaths globally occur in nine Southern Africa countries;
- Failure of State services (i.e. health, water and infrastructure);
- Poor governance (i.e. weak land reform policies, poor fiscal and economic policies);
- Inappropriate arable land management systems (i.e. over-cultivation of land resulting in infertile soils and erosion of rural and urban livelihood systems);
- Over-dependency on natural resources; and
- Reliance on rain-fed agriculture
- Trans-boundary risk

7. PAST, ONGOING AND FUTURE RESILIENCE MEASURES

The SADC region continues to strengthen its DRM institutional capacity to enhance resilience to disasters. For the purpose of this study, these have been divided into policy and institutions, and programmes and projects.

³¹ OCHA (2012) **Humanitarian Bulletin** Southern Africa Issue 12 | August 2013
http://reliefweb.int/sites/reliefweb.int/files/resources/ROSA%20Humanitarian%20Bulletin_August%202013_Cholera.pdf

³² Said, M.D et al. (2011) The case of cholera preparedness, response and prevention in the SADC region: A need for proactive and multi-level communication and co-ordination
<http://dx.doi.org/10.4314/wsa.v37i4.15>

³³ UNDP (2012) Institutional Capacity Assessment in Disaster Risk Reduction of the Southern African Development Community (SADC), Gaborone.

7.1 Policies and institutions

SADC DRM and Climate Change Strategies

Recognising that the SADC region is at risk from multiple disasters, the SADC region was the first African Regional Economic Commission (REC) to draft a DRR strategy in 2001 to enhance the DRR coordination at the sub-regional level (Africa Development Bank, UNISDR and NEPAD, 2004). The 2001 SADC DRR strategy pre-dated the Africa Disaster Risk Reduction Strategy (2004) and the Hyogo Framework of Action (2005). However, the successive SADC DRR strategies, 2006–2010 and 2011-2015 strategies, have been aligned to the priority areas and objectives of the Hyogo Framework of Action (UNISDR 2005), the Africa Regional Strategy for Disaster Risk Reduction (UNISDR 2004) and the Plan of Implementation of the Africa Regional DRR Strategy (African Union 2010).

In relation to climate change policy, the majority of countries have either adopted or are drafting climate change policies. However, climate change policies and DRM policies tend to be fragmented as they are housed in different ministries with little interaction between them.

Regional and National Vulnerability Assessment Committees

Established in 1999, the SADC Regional Vulnerability Assessment Committee (RVAC), a multi-agency structure, was tasked with strengthening national and regional vulnerability analysis systems in order to inform policy formulation, development programmes and emergency interventions that lead to a reduction in vulnerability. The SADC region and its Member States are committed to addressing food insecurity in its broader context of poverty and livelihood vulnerability. Some of the effort is being realised through the Regional Vulnerability Assessment and Analysis (RVAA) system which comprises RVAC and the National Vulnerability Assessment Committees (NVACs).

For more than a decade now, the RVAC and NVACs have been conducting a series of vulnerability assessments in the southern African region. The vulnerability assessments use livelihood based approaches to VAA which among other things assess the interactions between food production, prices, income, expenditure patterns and exposure to various hazards in determining various dimensions of livelihood vulnerability and poverty. These vulnerability assessments have enhanced understanding and inform responses to food insecurity and livelihood vulnerability in southern Africa.

The assessments use both qualitative and quantitative methods such as household surveys, key informant interviews using such tools as the livelihoods analytical framework and Household Economy Assessments (HEA). They also use secondary data from among others previous years, data from National Statistics Offices, baseline livelihoods data, crop estimates, nutrition surveys. The Household Economy Approach (HEA) has been used since 2008 in establishing livelihoods zones and households baseline profiles. As result, Namibia developed a food security risk map in 2008 to strengthen food security monitoring. However, the results RVAC and NVAC may not reflect the true picture on the ground as they tend to (a) face

resource constraints and therefore rely heavily on support from cooperating partners, and (b) be subject to political acceptance before results can be made public.

SADC Institutions related to DRR

1. Climate Services Centre (CSC): Established in 1990 as the Drought Monitoring Centre, the CSC provides regional services for monitoring and predicting extremes in climate condition. Being one of the four such centres in Africa, and co-located with Botswana Meteorological Services, the CSC develops and disseminates meteorological, environmental and hydro-meteorological products. The CSC has improved preparedness for hydrometeorological hazards, conservation and protection of natural resources. However, the CSC's operations depend on support from cooperating partners such as UNDP, WMO, the World Bank, National Oceanic and Atmosphere Administration, Office of Global Programmes (NOAA-OGP) and United States Agency for International Development (USAID) and Belgium.

2. Regional Climate Data Processing Centre: The (CSC) is setting-up a Climate Data Processing Centre that will consist of four main subcomponents:

- Climate Data Management System (CLIDAM): Acts as a regional Centre for Climate Data Management System and stores a variety of climate data for Southern Africa. CLIDAM system will integrate real-time data through telecommunication systems and historical data made available through bilateral agreements between the CSC and each SADC Member State.
- Climate Data Processing and Production System (CLIDAP): Comprises two parts: the Data Centre and the Task Centre. The Data Centre stores meteorological data including, monthly forecast, long range forecast data, climate scenario and satellite data. The Task Centre runs specific tasks and processes within a secure and monitored operational environment, including: elementary tasks such as cropping of global model fields and pre-views, and satellite data processing.
- Extreme Weather and Climate Monitoring (MONIS): Integrated and powerful tool for weather and climate monitoring will be installed at SADC CSC to gather, visualize, interact and add value to all meteorological data on a single workstation.
- Integrated Climate Information Dissemination and Early Warning System (IDIS): Provides the CSC with the tools to generate and disseminate productions to end-users. This system will answer to Public Weather System (PWS) requirements; and Early Warning System (EWS) requirements.

In addition, there are three operational climate data processing centres in the Southern Africa Region. Two Regional Specialised Meteorological Centres are located in Pretoria, South Africa and La Reunion Tropical Cyclone Centre, in Reunion. The SADC Thematic Action on African Monitoring of Environment for Sustainable Development (AMESD) provides satellite data processing information outputs for crop monitoring, drought prevention and fire alert to SADC Member States. The African Centre of Meteorological Application for the Development

(ACMAD) also provides weather and climate information relevant to the SADC Region at a continental scale.

3. Regional Early Warning Centre: Launched in 2010, the REWC integrates inputs from National Early Warning Centres (NEWCs) and the Regional Early Warning Centre (REWC). The REWC compiles strategic assessments and analyses of data collected at regional level; shares information on major issues posing threat to the security and stability of the region; and proposes ways and means for preventing, combating and managing such threats.

4. Regional Peacekeeping Training Centre (RPTC): Established in Zimbabwe in 1996, the RPTC

- promote regional cooperation in peace and security among SADC Member states;
- builds capacity in conflict prevention and conflict management
- trains peacekeeping practitioners and provide training,
- develops and delivers peacekeeping training

5. Regional Poverty Observatory (RPO): SADC aims to establish the RPO by 2013 to provide adequate and meaningful monitoring services. The RPO will function as a forum where all the stakeholders working in poverty eradication at the regional and national levels meet to evaluate and monitor the implementation of the Regional Poverty Reduction Framework. It is designed as a multi-stakeholder consultative forum for monitoring the objectives, targets and actions identified within the SADC poverty reduction programme. The objectives of the RPO are to: help Member States through harmonisation of standards, methods and indicators; speed up reforms and execution of national poverty reduction strategies; provide regional best practices to supplement the benchmarks of the millennium development goals; allow comparative performance analysis across Member States.

6. Centre for Coordination of Agricultural Research and Development (CCARDESA): Coordinates the implementation of agricultural research and development (R&D) in SADC. CCARDESA's goal is to reduce food insecurity and poverty in the SADC, paying particular attention to increasing smallholder productivity and competitiveness.

7.2 Programmes and Projects

There several projects DRM and CCA project at regional, national and sub-national level. Table 17 shows the list of programmes and projects which have been implemented in Mozambique, with some of them being implemented across the region.

Table 17: DRM and CCA programmes in Mozambique

Programme/ Project	Funding Source	Intervention	Year
Pilot Program for CC	Strategic Climate Fund	Integration of climate risk and resilience into core development	2011
Environment Mainstreaming and Adaptation to CC	Spanish MDG Achievement Fund	Mainstreaming CC policies and enhance adaptive capacity in Limpopo Region	2008
The African Adaptation Programme	Japan-UNDP Framework for Building Partnership to Address CC in Africa	Capacity development for data and information management, leadership, DRR and CC analysis and knowledge management and innovative finance	2008
Livelihood Protection and Promotion (LPP) Programme	Dutch, Canadian and US governments	addressed the impact of natural, social and health risks through the integration of food assistance	2008
Strengthening Local DRM and Mainstreaming in Mozambique	UNDP (UNDAF) in partnership with INGC	Strengthening Disaster Risk Reduction and Emergency Preparedness in Mozambique	2007
Floodplain Management in the Zambezi Valley	Save the Children	Enhancing Sustainable Livelihoods Resilience in Caia, Mopeia, Morrumbala and Tambara	2009
Adaptation in Coastal Zones of Mozambique	MICOA, UNDP, INGC etc	Institutional capacity development for DRM and CC	

Source: Mozambique Report

8. HFA PROGRESS: COUNTRY SELF-REPORTS

The countries that signed up to the HFA are required to report on HFA progress every two years. Reporting on HFA progress does not necessarily reflect the extent to which the country has mainstreamed DRR but maybe an indicator of its capacity to implement DRR. Table 18 shows variation in reporting with 2011-2103 having the lowest number of reports from SADC countries. Of all the SADC countries, the DRC, South Africa, Swaziland and Zimbabwe appear not to have submitted progress reports using the HFA monitor. In the exception of Mauritius and Tanzania that have submitted HFA progress reports for the three periods, two countries have reported twice while six countries reported once. The data from Table 18 could suggest that either respective countries (1) have limited DRR technical or institutional capacity particularly the National Platform or (2) were not aware of how to complete the HFA monitor.

Table 18: HFA progress reporting 2007-2013

Country	Reporting Period		
	2007-2009	2009-2011	2011-2013
Angola	x		
Botswana		x	
DRC			
Lesotho		x	
Madagascar		x	
Malawi	x		x
Mauritius	x	x	x
Mozambique	x	x	x
Namibia		x	
Seychelles		x	
South Africa			
Swaziland			
Tanzania	x	x	x
Zambia	x	x	
Zimbabwe			
Total	6	9	5

8.1 HFA Progress for Priority 1

Table 19 shows the most of countries that reported generally rated themselves between 3 and 4 against the Priority 1 indicators. This could suggest that these countries they have made remarkable progress in the implementation of Priority 1. However, while Malawi had rates of 3 and 4 for indicators 1 and 2 in 2007-2009, the rating was downgraded to 2 and 2 respectively in 2011-2013 (**Why?**). Similarly, Tanzania downgraded the rating for indicator 2 from 3 in 2007-2009 to 2 in 2011-2013 (**why?**). As there are gaps in data, it is difficult to generalise HFA progress for Priority 1 in SADC countries.

Table 19: HFA Priority 1 Progress in SADC

Country	Reporting Period											
	2007-2009				2009-2011				2011-2013			
	A1	A2	P3	P4	P1	P2	P3	P4	P1	P2	P3	P4
Angola	3	3	2	4								
Botswana					4	2	2	4				
DRC												
Lesotho					3	3	2	2				
Madagascar					4	3	4	4				
Malawi	4	3	4	1					4	2	2	3
Mauritius	3	4	4	3	3	4	4	3	4	4	4	4
Mozambique	3	3	4	4	4	4	4	4	4	4	4	4
Namibia					4	3	3	4				
Seychelles					4	4	4	4				
South Africa												
Swaziland												
Tanzania	4	3	3	4	4	3	3	4	4	2	3	4
Zambia	2	3	4	4	4	3	4	4				
Zimbabwe												

8.2 HFA progress: Priority 2

Table 20 reveals that the countries that reported on HFA 2 generally rated themselves between 3 and 4. Of the countries that submitted reports for all the reporting periods, there have been no changes in rating for all the indicators for Tanzania suggesting there has been limited progress (Why?). The results also show that Lesotho generally had the lowest ratings for progress against all the indicators when compared with the rest of the countries that reported.

Table 20: HFA Priority 2 Progress in SADC

Country	Reporting Period											
	2007-2009				2009-2011				2011-2013			
	P1	P2	P3	P4	P1	P2	P3	P4	P1	P2	P3	P4
Angola	2	3	3	2								
Botswana					4	2	5	3				
DRC												
Lesotho					2	2	3	1				
Madagascar					4	4	4	2				
Malawi	3	4	2	1					3	4	4	4
Mauritius	3	3	4	4	3	3	4	4	3	3	4	4
Mozambique	3	4	3	3	3	3	4	3	4	4	4	4
Namibia					4	3	4	3				
Seychelles					4	4	4	4				
South Africa												
Swaziland												
Tanzania	3	3	3	3	3	3	3	3	3	3	3	3
Zambia	1	1	4	4	2	2	4	4				
Zimbabwe												

8.3 HFA progress: Priority 3

Table 21 reveals general progress in the implementation of HFA3 with the majority of rating being between 3 and 4 for all the indicators. Most progress is notable for indicator 4 which has ratings of 5 for Botswana and Mozambique (**WHY**). However, there generally little progress in indicator 3 compared with the rest of the indicators (**WHY**). In fact, Malawi downgraded the rating for indicator 3 from 3 in 2007-2009 to 2 in 2011-2013 (**why**). Similarly, Zambia downgraded the rating from 3 in 2007-2009 to 1 in 2009-2011.

Table 21: HFA Priority 3 Progress in SADC

Country	Reporting Period											
	2007-2009				2009-2011				2011-2013			
	P1	P2	P3	P4	P1	P2	P3	P4	P1	P2	P3	P4
Angola	3	3	3	4								
Botswana					3	2	1	5				
DRC												
Lesotho					2	3	1	2				
Madagascar					4	4	3	4				
Malawi	3	4	3	4					4	4	2	3
Mauritius	4	3	2	3	4	3	2	3	4	4	2	4
Mozambique	2	3	2	2	3	2	2	4	4	4	3	5
Namibia					3	3	3	2				
Seychelles					1	1	2	4				
South Africa												
Swaziland												
Tanzania					3	3	3	3	4	3	3	3
Zambia	3	3	3	3	4	2	1	4				
Zimbabwe	4	2	1	4								

8.4 HFA Progress: Priority 4

Table 22 reveals variations in the implementation of priority 4 across the region ranging from the lowest rating of 1 for Lesotho to an average rating of 4 for Mozambique and Zambia. Moreover, Zambia gave itself a rating of 5 for indicator 6 for 2007-2009 and 2009-2011, meaning that Zambia has sustainable procedures in place to assess disaster risk impacts for all major development projects, including infrastructure. In contrast, Malawi downgraded the ratings for indicator 1 and 3 from 4 and 5 in 2007-2009 to 2 and 3 respectively (**Why?**). Although it is difficult to generalise the extent of progress due to gaps in data, it is clear that Mauritius, Mozambique, Tanzania and to an extent Zambia have made some progress in implementing HFA priority 4.

Table 22: HFA Priority 4 Progress in SADC

Country	Reporting Period																	
	2007-2009						2009-2011						2011-2013					
	P 1	P 2	P 3	P 4	P 5	P 6	P 1	P 2	P 3	P 4	P 5	P 6	P 1	P 2	P 3	P 4	P 5	P 6
Angola	3	3	2	4	3	3												
Botswana							1	5	1	2	2	4						
DRC																		
Lesotho							1	1	1	1	1	1						
Madagascar							3	2	3	2	4	2						
Malawi	4	3	5	1	2	3							2	4	3	2	3	3
Mauritius	3	3	2	2	3	2	3	3	2	2	3	2	4	4	3	4	4	3
Mozambique	4	4	3	4	4	3	4	3	2	3	4	4	4	4	3	3	4	4
Namibia							4	4	3	3	4	3						
Seychelles							4	2	2	4	4	4						
South Africa																		
Swaziland																		
Tanzania	3	3	3	3	3	3	3	3	3	3	3	3	4	3	3	4	3	3
Zambia	4	4	4	4	4	5	4	4	4	4	4	5						
Zimbabwe																		

8.5 HFA Progress: Priority 5

In the exception of Lesotho, the scores in Table 23 show that countries that reported generally rated themselves between 3 and 5 across the indicators for priority 5. Mozambique and Zambia have scores of 5 on 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, Malawi downgraded the rating for 2 and 3 from 4 and 4 in 2007-2009 to 3 and 3 in 2011-2013 respectively. Similarly, Tanzania downgraded its rating for indicators 3 and 4 from 4 and 4 in 2007-2009 and 2009-2011 to 3 and 3 in 2011-2013 (WHY?). In relation to availability of financial reserves and contingency mechanisms to enable effective response and recovery when required, in the exception of Botswana, most countries, particularly Madagascar and Malawi still have challenges. Like in other priorities, although it is difficult to generalise the extent of progress due to gaps in data, it is clear that Mauritius, Mozambique, Tanzania and to an extent Zambia have made some significant progress in implementing HFA priority 5.

Table 23: HFA Priority 5 Progress in SADC

Country	Reporting Period											
	2007-2009				2009-2011				2011-2013			
	P1	P2	P3	P4	P1	P2	P3	P4	P1	P2	P3	P4
Angola	3	3	2	3								
Botswana					4	4	5	1				
DRC												
Lesotho					1	2	2	2				
Madagascar					4	4	2	4				
Malawi	4	4	4	4					4	3	3	4
Mauritius	4	3	2	4	4	3	2	4	4	4	3	4
Mozambique	4	5	4	4	3	4			4	5	4	4
Namibia					4	3	3	3				
Seychelles					4	3	4	4				
South Africa												
Swaziland												
Tanzania	4	4	4	4	4	4	4	4	4	4	3	3
Zambia	5	5	4	3	5	5	4	3				
Zimbabwe												

9. DRR MAINSTREAMING IN POLICIES AND PROGRAMMES

9.1 Progress in DRR Mainstreaming through legal frameworks

Of the sampled countries, Mauritius was in the process of developing the DRR Bill while Zimbabwe the legislation was in draft form. Table 24 reveals that the extent to which the content of DRM legislations incorporates the main elements of the HFA was rated 5 across the participating countries.

- *This suggests that DRM legislations that have been passed or were still in draft form when this study was conducted in sampled countries incorporate the elements of the HFA. These DRM legislations, including the South African Disaster Management Act of 2002 that was promulgated before the HFA, explicitly incorporate disaster and development connections in order to address underlying risk factors, prevention, mitigation, preparedness, response and recovery.*

Table 24: Mainstreaming DRR through legal frameworks

Question	Mau	Mal	Nam	SA	Zam	Zim
	N/A [No DRR legislation]	DRM Bill	DRM Act 2012	DRM act 2002	DM Act 2010	DRM Bill 2011
1. The legislation contains the major elements of the HFA [disaster and development to address underlying risk factors, prevention, mitigation, preparedness and response, recovery]	1	5	5	5	5	5
2. The legislation provides adequate power to the NDMO for by being located either in the President or Prime Minister's Office	1	5	5	3	5	3
3. The national level institutions are adequate for effective implementation of DRR [This includes high level decision-making, a national coordination mechanism which may be or take the form of a multi-sectoral national platform]	1	5	5	4	5	4
4. The national level institutions are decentralised to sub-national levels for effective implementation of DRR? [This includes clarity of responsibilities of decentralised units, including sub-national coordination mechanisms which may be or take the form of a multi-sectoral sub-national platform]	1	5	4	5	4	5
5. The legislation compel sectors at national and sub-national levels to mainstream DRR	1	5	5	4	5	3
6. The legislation provide mechanisms for funding DRR	1	3	4	3	3	5
7. The legislation provide for local community participation, including vulnerable groups	1	5	5	5	5	5
Total out of 35	7	33	33	29	32	30

- *However, there are slight variations in the power and authority accorded to the NDMO to effectively mainstream and implement DRR. Namibia and Zambia were rated 5 as the NDMO was located either in the Presidency or Office of the Prime Minister (OPM), suggesting they had adequate power and authority to effectively mainstream and implement DRR. In contrast, South Africa and Zimbabwe received lower ratings as the NDMO was one of the directorates in a ministry, suggesting limited authority and power to effectively mainstream DRM across sector ministries.*
- *The DRM legislations provide national coordination mechanisms and decentralise power and authority to sub-national units. In relation to DRR coordination and decentralisation, the scores were between 4 and 5. The*

DRM legislations provide national coordination mechanisms in the form of multi-sectoral DRM platforms at national levels which are also decentralised to sub-national levels. In Namibia the national platform has been in existence since 1997 in the form of the National Emergency Management Committee which, in the DRM Act 2012, has now been referred to as the National Disaster Risk Management Committee. At the sub-national level, Namibia has DRM platforms in the form of regional, local authorities, constituency and settlement DRM committees. The legislations also place emphases on wider participation, including vulnerable groups.

- *In terms of vertical integration of DRM, these legislations are generally explicit on the role of sectors in mainstreaming DRM into sectors.* In the exception of Zimbabwe with a score of 3, the rest of the legislative frameworks had a score of 4 or above as these legislations are explicit on the role of sectors in mainstreaming DRR into sectors. In Zambia, section 40 (1-2) of the DM Act 2011 requires ministries, sectors etc to prepare disaster management plans preparedness, prevention and mitigation plans for slow and rapid on-set disasters. In Malawi, Namibia and South Africa each national organ of state indicated in the national disaster management framework must prepare a disaster management plan. This is replicated at the provincial and municipal levels. In Zimbabwe, the proposed law assumes that the institutional framework of committees and sub-committees will take care of sectoral responsibility. The sector responsibilities are, however, outlined further in the policy.
- *Less explicit on funding:* The extent to which DRM legislations were explicit on funding mechanisms ranged from 3-5. Generally, there was lack of clarity in terms of DRR funding. Although Zimbabwe's DRM Bill proposes 1% of budget allocated to DRM, it is not known whether parliament will approve the proposal. Apart from making provisions for Disaster Management Fund although with different terms used, the legislations do not provide a budget formula for DRR. Moreover, the Disaster Management Fund tends to be skewed towards the response rather than prevention and mitigation. In Namibia, the National Disaster Management Fund is a contingency fund mainly used during disaster situations, and to an extent, during the recovery phase. However, the Namibia's DRM Act 2010 (as well as the policy), sectors and decentralised structures can mobilize their own financial resources for DRM activities. This means DRR prevention and mitigation funding is a sector responsibility, thus leaving DRR resource mobilisation at the discretion of sectors. However, there are opportunities to clarify and operationalised DRR funding issues through statutory instruments and directives.

9.2 Progress in DRR Mainstreaming through Policy Frameworks

Table 25 outlines the extent to which DRR has been mainstreamed into national policies.

Table 25: Mainstreaming DRR through policy frameworks

Question	Mau	Mal	Nam	S A	Zam	Zim
	Policy being drafted	Draft DRM policy 2011	DRM policy 2009	National Disaster Framework 2005	National Disaster Management policy 2013	DRM Policy 2011
1. The policy reflects the DRR statements made in the legislation, HFA, African Region DRR strategy and SADC strategy [Coherence with global and regional policies]	1	5	5	5	5	5
2. DRR is considered in public investment decisions at national and sub-national levels [eg EIA, SIA etc]	1	5	5	5	5	5
3. The policy is clear about the ratio of the budget towards risk reduction versus relief and reconstruction at national and sub-national levels.	1	3	4	3	4	5
4. The policy mainstreams DRR roles and responsibilities into key sectors [eg health, education, agriculture, food and nutrition security, social welfare, infrastructure, development planning]	1	5	5	5	5	5
5. The policy incorporates climate change	1	5	5	1	5	5
6. Multi-hazard, vulnerability and capacity assessment to inform planning and development decisions at national and sub-national levels.	1	5	5	5	5	5
7. Multi-hazard early warning systems including information-sharing at all levels	1	5	5	5	5	5
8. Outlines participation at regional and sub-regional levels in DRR, including transboundary risks	1	3	5	5	5	5
9. The policy ensures participation of civil society organisations in national and sub-national platforms	1	5	5	4	5	5
10. Emphasis on preparedness, contingency planning and response with clear budgetary commitments	1	4	4	5	4	5
11. Risk transfers and insurance measures incorporated	1	3	5	1	4	4
12. Clear roles and responsibilities for actors, performance indicators, timetable, targets and monitoring and evaluation	1	4	4	4	5	4
Total out of 60	12	52	57	48	57	58

The majority of indicators in Table 26 have a score of 4 and 5 suggesting that DRM policies generally set the basis for DRR mainstreaming in the participating countries. The DRM polices:

- *are coherent with the DRR global and regional policies as well as national legislation.* This includes the HFA, the Kyoto Protocol (for example, Namibia and Zambia) and the African DRR Strategy. Apart from Malawi and Zambia, the rest of the policies do not refer to the SADC strategy. However, most of the policies identify the legislations that complement the DRM legislations.
- *incorporate DRR tools such as risk assessments, including SIA and EIA for major investment.* Malawi and Zimbabwe's draft policies provide details on disaster risk assessments including the hazard type classification, risk profiling, steps in disaster risk assessments and quality standards.
- *make emphases on multi-hazard early warning systems,* for example, Namibia's 2009 DRM policy, section 8.2.1, provides details on EWS.
- *assign clear roles and responsibilities for sectors.* In Zambia, sector responsibilities are clearer in the draft guidelines.
- *incorporate wider participation of stakeholders and affected communities;*
- *address trans-boundary risks, through participation at the regional and sub-regional level.* South Africa's NDMF of 2005 [p46-51] is devoted to regional cooperation and makes various proposal for SADC information-sharing and cross-border protocols on, among others, DRR prevention, preparedness and response. Form the consultations, Zimbabwe has drafted Memorandum of Understanding for consideration by neighbours. However, Malawi's revised draft policy is silent on trans-boundary risks.
- *provide guidelines on preparedness and response,* including contingency planning, with the resources mainly identified through the respective disaster management funds.

However, there are a few concerns:

- *While the policies appear to be clear on sources of funding, they are less clear on the ratio of budget to DRR.* Zambia's Disaster Management policy of 2013 is clear about sources of funding but less clear about the ratio of budget that will be allocated to DRR. In South Africa, DRR funding is left to the discretion to decision-makers as guided by the constitution and other legal instruments. While Namibia's policy provides for the establishment of the Disaster Management Fund and the Transport Accident Fund, the ratio of DRR in the national budget is silent. In many ways, DRR appears to be skewed towards response than prevention and mitigation.
- *While most of the country policies have incorporated risk sharing and transfers,* the South Africa NDMF 2005 is silent on risk transfers. Yet, risk transfers and insurance can enhance community recovery rather than depending on overstretched government resources.

9.3 Progress in DRR Mainstreaming in Strategies and Plans

The purpose of assessing the strategies and plans was to ascertain the extent to which countries were operationalising DRR mainstreaming and implementation. Of particular interest was to examine whether there was a difference between generic risk management plans and strategic plans with clear identification of capacity gaps, benchmarks, targets and results. Table 26 summarises the scores arising from the assessment of the strategies and plans.

Table 26: Mainstreaming DRR in strategies and plans

	Mau	Nam	SA	Zam	Zim
Question	Plan being drafted	DRM Plan 2011			
1. The strategy is coherent with the legislation, HFA, African Region DRR strategy and SADC strategy	1	5	-	-	5
2. The strategy identifies the key challenges [through the hazard, vulnerability and capacity profile]	1	4	-	-	5
3. The strategy sets out clear objectives and priority actions	1	4	-	-	5
4. The strategy has clear implementation plan with benchmarks, targets and timetable	1	4	-	-	5
5. Clear tasks for sectors [supported by UN agencies, NGOs etc]	1	5	-	-	5
6. Resources are identified to achieve identified tasks	1	4	-	-	4
Total 30	6	26	-	-	29

Of the five countries only Namibia has an approved plan while Zimbabwe's DRM strategy was still in draft form at the time this study was conducted. The plans that were assessed generally fulfilled the indicators:

- *Coherence with global, regional and national policy frameworks:* Like the legislations and policies, the plans were consistent with the global, regional and policies with both plans referring to the HFA and national legislations.
- *Identification of key challenges:* Both plans outline the hazard and vulnerability profiles. While Zimbabwe's draft DRM strategy identifies the capacity gaps, the Namibia plan appears to be less diagnostic on strengths, weaknesses, opportunities and threats to inform strategic actions.
- *Objectives underpinned by DRR theoretical frameworks:* Both plans are underpinned by the DRR theoretical frameworks. For Namibia, the objectives are guided by the disaster cycle: prevention, preparedness, response and recovery – this makes the plan focused on all aspects of DRR and makes it unique from other development plans. The Zimbabwe draft DRM strategy adopts a hazard approach guided by the UNISDR hazard classification.

- *Prioritising action:* In the Namibia DRM Plan, the actions are not prioritized and not clearly linked to the HFA priority actions. Similarly, Zimbabwe's draft DRM strategy does not clearly link the actions to the HFA priorities. While countries are not necessarily obliged to adhere to the HFA priorities, aligning the national priorities to the HFA priorities makes it much easier when reporting on HFA progress using the HFA monitor.
- *Time frame:* While the DRM plan for Namibia provides detailed information about what needs to be done, it could have been much more focused if there was a timeframe to differentiate it from a generic plan. In contrast, the Zimbabwe draft DRM strategy has a timeframe (2012-2015) to allow the DRR community to review the successes, share good practice and lessons learned.

9.4 Sector policies and strategies in mainstreaming DRR in Malawi

This section focuses on the vertical integration of DRR across sectors, including cooperating partner agencies for the sampled countries. It should be stated from the outset that these policy and strategy documents were accessed from government and cooperating partners' websites.

Table 27 shows the extent to which selected sector and cooperating partners' policies and strategies have attempted to mainstream DRR in Malawi.

Table 27: Sector and cooperating partners' policies in Malawi

Question	Other national, sector or agency policy, plan or strategy						
	MGDS 2011-2016	Health Sector Strategic Plan 2011-2016	Climate change Policy 2012	Agric SWAp 2010	National Social Support Policy 2009	National Water Policy 2005	UNDAF 2012-16
1. At minimum, the policy refers to any of the following: DRM legislation, HFA, African Region DRR strategy and SADC strategy	3	3	3	2	3	3	4
2. The policy explicitly incorporates disaster risk reduction aspects such as hazard, vulnerability and capacity assessments; disaster education; disaster prevention; mitigation; CCA; safety of critical infrastructure; risk-informed land-use planning; preparedness; response; and recovery.	5	5	3	3	5	5	5
3. Resources are identified to achieve identified tasks	5	3	1	3	2	5	5
Total 15	13	11	7	9	10	13	14

Table 27 reveals the following:

- *Coherence with global, regional, sub-regional and national policy frameworks:* The majority of the documents have a score of 3 as they do not refer to global, regional, sub-regional and national policy frameworks. However, by referring to DRR, it is implied that the Malawi Growth and Development Strategy (MGDS) were partly informed by the global and regional DRR policy frameworks. Moreover, the DRM is one of the outcomes of the MGDS and UNDAF strategies, and therefore form the basis for DRR and CCA mainstreaming. Consequently, the sector policies are informed by the MGDS strategic goals. For example, the National Social Support Policy of 2009 identifies DRM policy as one of the key tenets in realizing social policy goals.
- *The extent to which documents integrate DRR:* The scores range from 3-5, implying Malawi has made significant progress in mainstreaming DRR into sector policies. The UNDAF outcome 1.3 and 1.4 for example, provide detail baselines, indicators and targets on DRR and CCA mainstreaming as well as stand-alone programmes targeting specific sectors, decentralised structures and communities. Similarly, the Health Sector Strategic Plan, outcome 3, focuses on strengthening DRM and emphasizes use of disaster assessments to inform preparedness and emergency response. However, the National Climate Change Policy makes little reference to DRR, suggesting DRR and Climate Change are likely to have little connections at a time when there is a call for increased integration of the two bodies into a single framework.
- *Availability of resources:* In the exception of the MGDS, UNDAF and the National Water Policy 2005, the rest of the plans and strategies do not have budgets allocated to DRR activities.

9.5 Sector progress in mainstreaming DRR in Namibia

Table 28 shows the extent to which selected sector and cooperating partners' policies and strategies have attempted to mainstream DRR in Namibia. Table 28 reveals the following:

- *Coherence with global, regional, sub-regional and national policy frameworks:* In the exception of the National Climate Change Policy of 2011 [with a score of 4] which refers to the HFA and African Region DRR Strategy, the rest of the documents appear not to refer to global, regional, sub-regional and national policy frameworks. This could suggest that there could be lack of awareness of these policies thus DRR is less likely to be mainstreamed in sector or cooperating partners' policies and programmes.

Table 28: Sector in DRR mainstreaming in Namibia

Question	Other national, sector or agency policy, plan or strategy						
	Ministry of Health and Social Services strategy 2009-15	UNDAF	Education for all – National Plan of Action 2002-2015	Sanitation Strategy 2010-15	Ministry of Env and Tourism Strategy 2007/8-2011/12	National Policy on climate change 2011	4 th National Dev Plan 2012/3 – 2016/7
1. At minimum, the policy refers to any of the following: DRM legislation, HFA, African Region DRR strategy and SADC strategy	1	1	1	1	1	4	1
2. The policy explicitly incorporates disaster risk reduction aspects such as hazard, vulnerability and capacity assessments; disaster education; disaster prevention; mitigation; CCA; safety of critical infrastructure; risk-informed land-use planning; preparedness; response; and recovery.	3	3	1	4	2	5	3
3. Resources are identified to achieve identified tasks	5	5	1	5	5	4	1
Total 15	9	9	3	10	8	13	5

- The extent to which documents integrate DRR:* The scores range from 1-5, with the Education Plan 2002-2015 having a score of 1 as it is silent on DRR while the National Climate Change policy has a score of 5 as Section 4.13 explicitly provides strategic directions for integrating DRR and climate change. The National Policy on Climate Change also recognises the socio-economic impact of floods and droughts, including on food and livelihoods security, diseases (e.g. Malaria) and desertification. Although the UNDAF 2006-2010, Outcome 2 also explicitly refers to strengthening DRM from national to local levels including 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 DRR mainstreaming in development” which further was developed in 2010, consultations revealed that there has been limited implementation of the initiatives due mainly to lack of funding. The Ministry of Health and Social Services Strategic Plan 2009-2015 is explicit on emergency and disaster response component, including conducting simulation exercises and setting up regional emergency committees. Other DRR actions such as prevention and mitigation are implied under reduction in mortality, morbidity and malnutrition rates, and improvement in waste management systems. Similarly, the Sanitation Strategy implicitly integrates DRR by using some of the mainstreaming tools such EIA, focuses on reduction of WASH related diseases, and also makes

emphasis on raising awareness on behaviour change. Moreover, the Fourth National Development Plan 2012/13 – 2016/17 which implicitly integrates DRR by referring to vulnerability to climate change and external shocks, including hazards such as floods, drought, birds and pests. The Fourth National Development Plan also proposes to investigate and utilise drought resistant crops and livestock. It also refers to EIA tools to inform development activities.

- *Availability of resources:* In the exception of the Education Plan and the Fourth National Development Plan, the rest of the plans and strategies have budgets allocated to DRR activities.
- *Challenges in DRR mainstreaming in practice:* Major challenges, according to consultations include:
 - limited advocacy influence policy-makers to make DRM a national priority,
 - lack of awareness strategy,
 - limited technical capacity and financial resources in ministries to mainstream DRR
 - lack of strategy to tap into international and regional resources
 - there exists a ‘silo syndrome’ as legislative and policy frameworks which guide sector operations have not been harmonised with the DRR policies,
 - preference for emergency management which produce immediate results
 - burden of implementation of DRR is mainly borne by government and a few partners as the involvement of the communities, Civil Society Organisations and the private sector have not been harnessed.
- *Overcoming the challenges:* The following suggestions, according to the consultations were made:
 - Harmonization of legislative and policy frameworks to ensure DRR is mainstreamed in all sectors;
 - Aggressive advocacy and DRR campaigns to raise the profile of DRR;
 - Collection and dissemination of evidence showing the increasing negative impacts of disasters on development and poverty reduction;
 - Engagement of policy makers in various fora to mobilize support for DRR;
 - Capacity development and integrating DRR in the education curriculum; and
 - Capacity building in information management and coordination is required.

9.6 Sector progress in mainstreaming DRR in Zambia

In examining the progress in DRR mainstreaming the policies and strategies for water, health and education sectors were examined. Also, the UNDAF 2011-15 was

assessed as it sets the basis for UN agencies to mainstream DRR into their country programmes and projects. Table 29 reveals that:

- *Coherence with global, regional and national policy frameworks:* Apart from the UNDAF, which had a score of 4, the rest of sector plans or strategies had a score of 1 suggesting the indicator has not been fulfilled. The UNDAF is, however, silent on reference to the global and regional DRR policy frameworks. Nonetheless, by referring to the Disaster Management Act 2010, Disaster Management Operations Manual of 2005 and National Disaster Management Policy which were derived from global and regional policies, it might be implied that the global and regional policies were taken into account in the UNDAF document.

Table 29: Sector in DRR mainstreaming in Zambia

Question	Other national, sector or agency policy, plan or strategy			
	UNDAF 2011-15	NWASCO WASH Strategy 2013-2015	Health Strategy Plan 2011-2015	Education Medium Term Plan
1. At minimum, the policy refers to any of the following: DRM legislation, HFA, African Region DRR strategy and SADC strategy	4	1	1	1
2. The policy explicitly incorporates disaster risk reduction aspects such as hazard, vulnerability and capacity assessments; disaster education; disaster prevention; mitigation; CCA; safety of critical infrastructure; risk-informed land-use planning; preparedness; response; and recovery.	5	1	1	1
3. Resources are identified to achieve identified tasks	5	1	1	1
Total 15	14	3	3	3

- *The extent to which documents integrate DRR:* Apart from the UNDAF with a score of 5 the rest of the documents have a score of 1. This means UNDAF has fulfilled the indicator while the rest of the policies have not fulfilled the indicator. The UNDAF's Outcome 4 focuses on strengthening Climate Change, Environment and Disaster Risk Reduction and Response frameworks in Zambia. However, the National Health Strategic Plan 2011-15 recognises the impact of climate change on health and DRR is implicit in prevention measures for diseases such as malaria and GII.
- *Availability of resources:* The UNDAF has a score of 5 while the rest have a score of 1. Of the resources that were earmarked under UNDAF, 11.3% was allocated to Climate Change, Environment and DRR and Response. As a result, the a Joint Programme on Climate Change and Disaster Risk

Reduction (CCDRR) was initiated involving seven UN agencies (FAO, UNDP, UNIDO, WFP, UN-HABITAT, UNICEF and UNCCD) and at least 11 government ministries including DMMU. Since the rest of the strategies do not have explicit DRR components, the allocation of resources to DRR is not specified.

9.7 Sector progress in mainstreaming DRR in Zimbabwe

The water, health, climate change and food and nutrition sectors policies or strategies were assessed to establish the extent to which they mainstreamed DRR. Table 30 reveals that:

- *Coherence with global, regional and national policy frameworks:* The Water Policy 2012 and the Climate Change policy 2013 had a score of 5 each; UNDAF had a score of 2 while the rest of the policies or strategies had a score of 1. The Water Policy 2012 refers to, among others, the HFA, the Disaster Risk Management Bill, Public Health Act Environmental Management Act while the Climate Change Policy 2013 refers to the strategy refers to draft DRM legislation, DRM policy and DRM Strategy. Although the UNDAF does not make reference to the global and regional DRR strategies, it identifies the absence of a DRM legal framework as one of the major gaps in Zimbabwe. The rest of the policies are silent on the global, regional or national DRR policies suggesting limited awareness to the global, regional and national DRM policy frameworks.
- *The extent to which documents integrate DRR:* The Food and Nutrition Security Policy of 2013, Water Policy 2012 and the Climate Change Policy 2013 had a score of 5 each. The UNDAF had a score of 4 while the Medium Term Plan (MTP) and the Health Strategy had a score of 2 and 3 respectively. The Food and Nutrition Security Policy of 2013, Water Policy 2012 and the Climate Change Policy 2013 incorporate the application of DRR mainstreaming tools such as hazard, vulnerability and capacity assessments, EIA and DRM cycle. For example the Water Policy [p.17] 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. In order to produce a plan, a thorough assessment of the water supply process from water source to the consumer's tap will be carried out by the water services authority and enforced by Water Service Authorities'. Making DRM Bill and DRM Policy adopted is one of the major strength of the UNDAF while the Health Strategy and the MTP have implicit DRR elements. As a recovery plan, the MTP incorporates such actions as the use of EIA, mitigation and adaptation, risk management through productive safety nets. However, besides referring to the effects of 'natural disasters' and the implicit prevention measures, the Health Strategy has much less connection to DRR suggesting that there is a low likelihood that DRR will be explicitly mainstreamed in health sector.
- *Availability of resources:* In the exception of the UNDAF and Water Policy, the rest of the policies or strategies do not go beyond identifying sources of

funding. Thus, funding remains one of the major challenges to realise DRR mainstreaming in Zimbabwe.

Table 30: Sector progress in mainstreaming DRR in Zimbabwe

Question	Other national, sector or agency policy, plan or strategy					
	Food and Nutrition Security Policy 2013	UNDAF	Water Policy 2012	Health Strategy 2009-2013	Climate Change Strategy 2013	Medium Term Plan
1. At minimum, the policy refers to any of the following: DRM legislation, HFA, African Region DRR strategy and SADC strategy	1	2	5	1	5	1
2. The policy explicitly incorporates disaster risk reduction aspects such as hazard, vulnerability and capacity assessments; disaster education; disaster prevention; mitigation; CCA; safety of critical infrastructure; risk-informed land-use planning; preparedness; response; and recovery.	5	4	5	2	5	3
3. Resources are identified to achieve identified tasks	1	3	3	1	1	1
Total 15	7	9	13	4	11	5

9.8 Sector progress in mainstreaming DRR in South Africa

Owing to difficulties in accessing sector policies, the assessment for South Africa was not carried out.

9.10 Sector progress in mainstreaming DRR in Mauritius

Owing to difficulties in accessing sector policies, the assessment for Mauritius the assessment was not carried out.

10. EXEMPLARS OF GOOD PRACTICE

This section presents good practices, success factors and lessons learned in mainstreaming DRR and CCA measures in SADC. It should be noted that as most of the DRR mainstreaming activities are implemented by UN agencies and CSOs, the exemplars of good practices described in this report have mainly been derived from their work.

1. INSTITUTIONALIZATION OF RISK MANAGEMENT, PRO-GRC/ GERMAN SOCIETY FOR TECHNICAL COOPERATION (GTZ), MOZAMBIQUE³⁴

Summary: Integrated DRM in municipal development is part of 'Programa para o Desenvolvimento Rural' (programme for rural development - PRODER), whose emphasis is the promotion of district development plans. In 2007, the GTZ refined its programmes to include Integrated DRM. The objective of the project was to provide organisational and technical support to communities, districts and governments, particularly INGC to implement disaster risk management measures in priority areas threatened by hurricanes, floods and droughts. A further objective was to identify arid and semi-arid areas prone to droughts and bush fires, and, jointly with the local authorities, to identify relevant mechanisms for adaptation to climate change and management of hydrologic resources. The programmes focused on CENOE(s) (National Emergency Operation Centre(s) and the regions covered included Southern Region - Inhassoro, Vilankulo, and Govuro districts, Inhambane Province and Machanga district, Sofala Province; Central Region (Búzi, Chibabava in Sofala province, and Mossurize, Sussundenga (Administrative Post of Dombe) and Manica, Manica Province; Central and Southern regions – Massange in Gaza Province, Mabote, Funhalouro and Govuro in Inhambane Province and Machanga, Sofala Province

The context: Over the past 50 years, the country has been hit by 68 natural disasters which have killed more than 100,000 people and affected up to 28 million. As much as 25% of the population is at risk from natural hazards (World Bank, 2010:8). By 2010 Mozambique ranked second most vulnerable country to economic losses from natural disasters just behind Haiti (Maplecroft, 2010). Due to recurrent disasters triggered by natural hazards such as floods, cyclones and drought poverty levels in 2008 were at similar levels with those in 2003 (MPD, 2010). In 2013, flooding on the Limpopo basin claimed about 117 lives, displaced 176,000 people and caused economic damage of about USD 513 million (INGC, 2013). Consequently, according to government announcement on Friday 26 July 2013, the GDP growth for 2013 will be 1% lower declining from the expected 8.4% to 7.4% due to flooding. The main reasons given are a lack of technical expertise for preparation of local level risk management plans and implementation of preventive measures. To address these gaps, the priority components of this project included technical assistance, organizational and procedural measures and training (by international experts) on agricultural conservation techniques, at regional and local level. Important contributions have been made to reducing vulnerability. This included improving agro-business, providing technical advice in the implementation of a comprehensive and effective disaster risk prevention and DRM methodology, integrating DRM principles in rural development, and capacity building of INGC structures.

³⁴ Adapted from UNDP and ECHO (2010) Prepared under the United Nations Development Programme UNDP) and the European Commission Humanitarian Office (ECHO) through the Disaster Preparedness Programme (DIPECHO) Regional Initiative in Disaster Risk Reduction, March, 2010, Maputo – Mozambique, pp. 110-113.

Methodology and Tools: The promotion of risk reduction methodologies in the district development plans consisted of four components which were aligned to a number of activities. There were: district development planning with participatory activities at community level; strengthening of local governments and civilian population with activities related to risk reduction and identification of relevant hazards; adaptation of innovative technologies and sustainable use of natural resources; DRM interventions such as public education on impacts of wild fires on food security, and conservation agriculture.

Project Outcomes: The main outcomes relate to:

- behaviour change and attitude modification within communities;
- the adoption of minimum standards for building hazard resistant housing;
- the reduction of forest and wild fires in communities involved in the project;
- the successful integration of disaster risk management methodologies in PESODs with risk management responsibilities assumed by the district governments; and monitoring and supervision by local staff to ensure that the INGC risk management guidelines are followed.

The promotion of risk reduction methodologies in the district development plans consisted of the following four components which are aligned to a number of activities:

- District development planning with participatory activities at community level;
- Strengthening of local governments and civilian population with activities related to risk reduction and identification of relevant hazards;
- Adaptation of innovative technologies and sustainable use of natural resources;
- DRM interventions such as public education on impacts of wild fires on food security, and conservation agriculture.

Good Practice: The integration of disaster risk management into rural development existing plans is an excellent proven best practice. In the context of this project, the at-risk villages along Búzi River served as the pilot project area, receiving an integral, multi-sector and decentralised methodology. It has proven to work and already lead to important progress in the region. Furthermore, the establishment of flood EWS, including wildfires warning; the establishment of demonstration areas for testing different techniques of conservation agriculture; the creation of community networks within local level risk management in various at-risk districts and the development of community-based trained teams to undertake the risk management activities, are key elements of the methodology.

Lessons learned: The monitoring mechanisms in place, allow adjustments to solve problems encountered in project implementation. However, greater technical follow-up from the project's supervisory body is necessary to further strengthen local capacities. There is a need to utilize local resources, avoiding dependency on external funding (e.g. warning kits, with local materials; EWSs involving local leadership; youth working in drama and theatre; games with risk management themes aligned with INGC strategies with simultaneous translation into local languages). Once a warning has been issued, the community is well organized as observed by the rapid mobilization of at risk community and further identification of dangerous zones inside a community. Additionally, the exchange of good practices

from the Buzi and Chinde districts has been identified as one mechanism to enhance coordination.

Potential for replication: This practice has already been replicated. It started as a pilot project using rural development projects. The practices in it have a long history of integrating DRM management in existing structures, dating back to projects implemented by GTZ and partners in Central America.

2. THE INTEGRATING ADOLESCENT GIRLS INTO COMMUNITY BASED DISASTER RISK REDUCTION IN SOUTHERN AFRICA PROJECT

Summary: The intervention sought to allow CARE and African Centre for Disaster Studies (ACDS) to adapt the GIRRL (Girls in Risk Reduction Leadership) approach for use in other countries in Southern Africa in order to seek to decrease the challenges faced by adolescent girls in disaster and post disaster situations (and by extension overall community risk of poor outcomes for which adolescent girls are disproportionately vulnerable) by better integrating consideration of and participation by adolescent girls and other marginalized segments of the population into community-based disaster risk reduction.

The context: The project was implemented across four partner countries in Southern Africa in six different sites including; Tshidixwa (Zimbabwe), Kanyama (Ward 10) (Zambia), Kanyama (Ward 11) (Zambia), Salima (Malawi), Ntcheu (Malawi) and Mphaki (Lesotho). The Zambian sites were exposed to severe annual floods and related hazards including water borne diseases. Lesotho experienced hazards such as heavy snowfall, land slippage, wind and drought. Malawi had identified two sites that were plagued by flooding and drought that contributed significantly to food insecurity problems and Zimbabwe also struggle with food insecurity as a result of drought related hazards.

Methodology and Tools: ACDS provided technical assistance to the four (4) existing CARE country programs and partners (academic partners, local NGOs, and government entities). The programme highlighted the need for a girl-centred approach that encouraged participatory learning and involvement developed through the instigation of strategic capacity building sessions targeting areas of significance to the lives and welfare of adolescent girls in each community. Although the programme sought to engage girls as the primary target, it was understood that the project was also seeking to involve girls in conveying important information to their families, peers and the community to encourage change. The programme enabled girls and the broader community to understand some of the often overlooked issues which undermined the positions of girl children in society and reinforce their vulnerability.

Project outcomes

- Lesotho had girls coming together to support eco-clubs to help teach others (school, families, community) about the links between DRR, Climate Change and Natural Resource Management. In Malawi adolescent girls approached community leaders for permission to have their own plots (gardens) as part of the local irrigation schemes in order to help contribute to family food supplies,

to add to family earning through food sales as well as to help support conservation agriculture efforts designed to help ease drought and channel excess water during floods.

- Strengthened partnership between DRR Committees, communities, Parent Teacher Associations, School Officials and Children through the participation of girls in forums to discuss issues surrounding flooding, hygiene and public health issues in particular that threaten their welfare.
- In Zambia, local girls and boys (to encourage integration) were trained in water quality testing and fire safety while Girls from Lesotho, Zimbabwe, and Malawi were trained in first aid to help improve the safety in their communities.

Challenges: The primary challenge was linked to the culture of silence associated with gender based violence (GBV). Efforts had to be made to build trust between project facilitators and girl participants in order get girls to feel comfortable enough to reveal some of the issues that were undermining their welfare. It was discovered that in one group over 1/3 of the participants had been the survivors of forms of GBV including rape, abuse, incest and molestation.

Good Practice: The initiative sought to examine and understand the underlying conditions contributing to the social vulnerability of poor and marginalized adolescent girls in Southern Africa through their involvement in a community level programme that encouraged them, through the provision of improved capacity, to become leaders in DRR. The approach focused on encouraging empowerment through promoting social esteem, developing technical capacity, encouraging participation and incorporating personal life experiences in order to help pursue a balance to unequal social power that reinforces the inequality faced by this group.

Lessons Learned

- 1. Conditions Contribute to the Social Vulnerability of Girls** In all project sites underlying social issues particularly gender based violence served to highlight the pressing conditions that threaten the lives and welfare of women and girls. Disaster risk reduction will never be sufficient in helping girls and women, if it fails to acknowledge that social factors influence the way that girls live their lives. These issues need to be identified by the girls and be integrated into the content of the capacity building programme in order help address factors which reinforce the social vulnerability of adolescent girls.
- 2. Men and Boys as the Partners for Sustainable Change for Girls** - Following the experiences gained from the involvement of men and boys in the Zambia site, it has been established that men and boys need to be incorporated as partners from the start of the project for the most benefit. Their input can be valuable in identifying some of the root causes or beliefs that have led to the increased vulnerability faced by girls in many communities. Attitude and behaviour change among men and boys has the potential for enabling long lasting positive change for girls whose vulnerability is linked to human behaviour.
- 3. Community Involvement as Tool for Making Girls Visible** - Further lessons learnt include the recognised importance of involving girls in community activities particularly those that are linked to economic development, conservation or hazard mitigation such as tree planting and irrigation farming.

This has allowed girls to take a more active role in community development, which can make them more visible and potentially they can be recognised as being even more valuable to community.

4. **Cross Cutting Issues and their Implications for Girls** - Within the complex combination of sex, gender based violence, natural hazards and food insecurity, it has been determined that in many situations in Southern Africa, during periods of food insecurity, girls receive food last within the context of the household, this can force them to engage in dangerous activities such as transactional sex for food or money. This increases their exposure to early pregnancy, sexually transmitted diseases, and HIV/AIDS. They are hence more vulnerable to threats related to natural hazards.

Potential for replication

Following a regional knowledge sharing workshop held in Lusaka it has been determined that CARE Southern Africa Regional Management Unit and the CARE Country Offices (Zambia, Zimbabwe, Lesotho and Malawi) have an expressed interest in taking the next steps to scale up the project given the support from the communities, the recognised benefits for the girls, and the need to establish functional models that help to address the needs of the girl child and marginalised youth in disaster risk reduction in the region.

3. PLAN ZIMBABWE'S CLIMATE SMART DISASTER RISK REDUCTION (CSDRR)

Summary: With the support from Plan International Australia (PIA), the child-centred CSDRR programme was implemented by Plan Zimbabwe between 2009 and 2013, whose objectives were:

1. To develop and strengthen the capacity of Plan staff, local government institutions and grass root structures on DRR and community resilience;
2. To strengthen community capacity in child-centred hazard, vulnerability and capacity mapping, carry out risk analysis and develop disaster management plans.

The context: Chipinge District, the focus of CSDRR, is among the districts with a high risk to disasters triggered by floods, cyclones and disease epidemics in Zimbabwe. Moreover, Chipinge District was not spared from the cholera disaster of 2008-2009 which claimed over 4000 lives, including children.

Methodology and Tools: The CSDRR programme was underpinned by a child-centred approach to building DRR capacity for Plan Zimbabwe staff, Chipinge District Civil Protection Committee, school teachers and children. Capacity building included training in, and application of, Hazard, Risk and Vulnerability Assessment (HVCA) tools, humanitarian principles, child protection in emergencies and tree planting and care.

Project outputs

- The CSDRR has engendered a culture of DRR at Country and Programme Unit level of Plan Zimbabwe, notably (1) integration of child-centred DRR and

Climate Change Adaptation (CCA) in programmes and projects, and (2) regular review of risks.

- Strengthened DRR partnership with government and non-government agencies, school teachers and children.
- Integration of DRR into the curriculum through the establishment of DRR clubs, tree and grass planting and raising DRR awareness to parents.

Good Practice: There are two exemplars of good practice

a. 'Practice what I do and what I say'

Inculcating a culture of DRR with the Plan Zimbabwe before building the capacity of partners was a measure of good practice. Measures were put in place for consistently and regularly appraising risks within Plan. The Plan Zimbabwe Staff at Chipinge Programme Unit developed a risk register which they review every quarter to capture the changing nature of risk. This includes review of fire and disease hazards. To reduce fire hazards, they review the use of kettle for boiling water, storage of fuel and adherence to non-smoking signs and ensuring the fire guards are maintained. At risk register review meetings they also emphasise the importance of personal hygiene, particularly the washing of hands after using the toilet to reduce the risk of Gastrointestinal Infections (GII) such as cholera and typhoid. Reverse parking to prepare for rapid response in case of emergencies has become a common characteristic for Plan vehicles.

b. 'Provide me with information to help me tell parents about disasters'

Equipping children with evidence of disaster prevention and impacts enabled them to influence policy-makers in making DRR a national and a local priority. Tongogara Primary School children in Chipinge District engaged with decision-makers at district to demonstrate the benefits of preventing compared with responding to floods in Save River. As a result, Tongogara Primary School has not only become an open learning laboratory for DRR and CCA in Chipinge district but also one of the reference points for community-based disaster risk reduction in Zimbabwe.

Key success factors and challenges

The increasing demand for DRR following the HFA, draft DRM Bill, draft DRM policy, and draft DRM strategy provided the foundation for success of the project. In addition, the humanitarian response, particularly following the outbreak of cholera, provided an entry point to upstream disaster risk reduction in Zimbabwe. Also, considering the Zimbabwe's political context during the project implemented period, working with schools and Department of Civil Protection structures provided legitimacy to the programme. In addition, leveraging on partners resources, skills and expertise did not only promote the efficiency of the programme. Staff turnover in government departments, could have affected the effectiveness of the project as most of the staff who were trained were transferred to other districts suggesting more training was needed.

Lessons learned

1. Although at the initial phases of DRR capacity building should be construed as a standalone project in order to increase knowledge, skills and expertise,

the later stages should consider DRR as cultural and a cross-cutting issue that should be integrated into programmes and projects.

2. Programmes should design some form of feedback mechanisms to test the widely held assumption that children can significantly influence change of parental attitudes from response to prevention.

Potential for replication

That other districts where Plan Zimbabwe operates have adopted the CSDRR model suggests that the CSDRR has a high potential for replication. The CSDRR was implemented in phases, starting with building Plan Zimbabwe's DRR capacity before building the capacity of partners. Also, the partners who were trained have in turn continued to train others indicating potential for adoption by others.

4. UNFPA RESTORE HOPE, SAVE LIVES PROJECT IN SOUTH MADAGASCAR

Summary: Reproductive health needs tend to be overlooked before, during and after humanitarian emergencies, including slow-onset food insecurity emergencies. This project responded to humanitarian needs in the face of excessive risks of maternal and neonatal mortality in South Madagascar affected by recurrent food insecurity. Conducted between 2008 and 2010, the objective of the project was to contribute to the reduction of vulnerability among women of child-bearing age linked to recurrent food crisis in three regions of Southern Madagascar.

The context: Southern Madagascar, which represents 10% of Madagascar's population, suffers from climate change related chronic which cause food insecurity and risks of famine. In this region, 70% of its households are ranked in the second poorest quintiles for a rate of 40% at national level. The health indicators are lowest compared to rest of the country; the contraceptive prevalence rate among 15-49 year old women is only 3.2 while the national average is 29.2. Similarly, only 24% of live births in health facilities were reported over the past 5 years while the national average is 35%. The reproductive health of teenagers and youths confirms these warning signs. About 48.7 % of 15-19 year old teenagers in these three regions have either been pregnant or are already mothers while the national average is 31.7%. To reduce the risk of excess maternal and neonatal mortality exacerbated food insecurity, UNFPA's response emphasised on improving access to reproductive health and basic social services for the teenagers, youths, pregnant women and lactating mothers.

Methodology and Tools: UNFP, in partnership with WFP and local NGO SOMONTSOY, strengthened the capacities of governmental institutions, namely the Ministry of Health at all levels, target population and community leaders to enhance access to free quality reproductive services. The implementation of the project included use of rapid assessment tools two months before the lean period not only to form the basis for targeting the women of child-bearing age, pregnant and lactating mothers but also to form the basis for strengthening technical capacity of health facilities and associated training.

Project outputs

- Community leaders of 14 targeted communes took ownership of the mechanism for the management of individual delivery kits.
- More than 8000 women of child-bearing age benefited from adequate reproductive health management through better access to free quality reproductive health services. The rate of contraceptive coverage rose from 3.6% to 31% in the target areas of Androy.
- More than 2500 pregnant women or those who recently delivered were provided with prenatal, delivery and postnatal care thus reducing the high risk of excess maternal mortality due to obstetrical complications.

Good Practice: The best practice is in the use of the rapid assessment tools not only in integrating reproductive health and food aid programmes but also in targeting project beneficiaries. The integration of reproductive health and food aid programme was favourably accepted by all stakeholders and their implementation was facilitated through the close monitoring of activities and the strengthening of coordination at all levels. In addition, UNFPA is convinced that using rapid assessments before the onset of the food insecurity period can assist in revealing the required support for government institutions, local leadership and target communities in the provision of reproductive health services.

Key success factors and challenges: The partnership approach, with UN agencies, government and NGOs, was one of the major factors that contributed to the success of the project. In particular, the involvement of a local NGO SOMONTSOY that is familiar with cultural sensitivities and with proven experience in working with the community was fundamental for the supervision of community leaders in social mobilization activities and the recuperation of missing clients. Also, strengthening the capacities of community actors upstream led to an enhanced appropriation downstream which translated into an effective management of individual kits and the significant increase in the use of reproductive services by the most remote populations. However, the project could have been more successful if it was timely availability of required resources, improved accessibility for populations living more than 10 km away from health centres, adequate storage of individual delivery and hygiene/ dignity kits in communes, enhanced capacity of local and community-based NGOs to react rapidly in situation of crisis and a robust system evaluation of results (quantitative and qualitative).

Lessons learned

- The leadership of the management team of health districts is fundamental for the availability of human resources.
- The correlated development of partnership between United Nations Agencies and local actors made it possible to better prepare and find a response to the lean period through efficient resource management.
- The development of appropriate management tools helps to establish a climate of confidence among the different stakeholders, especially in the recipient community.

Potential for replication

Taking into account that most SADC members experience drought-induced food insecurity, the project can be replicated provided it is adapted to the local context.

5. COMMUNITY BASED AND PEOPLE-CENTRED FLOOD FORECASTING AND EARLY WARNING SYSTEM (CBFFEWS)

Summary: Evangelical Association of Malawi and Christian Aid in partnership with Chikhwawa district, Water Department and Department of Meteorological services piloted a CBFFEWS in 2008-2009. The specific objective of the project is to strengthen local community capacity to prepare and respond to flood induced disasters. The project was the first of its kind at community level in the country. Communities in different areas and districts along rivers that usually floods are connected through the system to ensure relay of important of trigger events such as rain fall patterns.

The context: Floods are the most common natural hazards in Malawi, particularly in Chikwawa district which lies along the lower flat basin of the Shire River. On the eastern side, the district is bordered by the Thyolo escarpment, from where most rivers and streams flowing through the district originate. This is a generally dry environment, with below average rainfall. Despite this, 63 percent of the population depends on subsistence, rain-fed agriculture as their mainstay. Irrigation development is suboptimal, at only 5 percent of the potential 38,000 hectares. Although drought is a recurrent hazard, the district socio-economic profile ranks floods as a severe hazard.

Methodology and Tools: An Early Needs Assessment (ERNA) was conducted in July 2008 using a detailed livelihood assessment methodology adopted from the Food and Agriculture Organization/International Labour Organization (FAO/ILO) Livelihoods Assessment Toolkit (LAT). The methodology was combined with components from the Participatory Assessment of Disaster Risks (PADR) developed by Tearfund UK. Quantitative and qualitative data was collected through semi-structured interviews with local government officials, Focus Group Discussions (FGD), interviews with individual households in 15 villages involving 973 people (434 men and 539 women). Through the use of hazard matrices, communities identified the principal hazards. Floods were identified as the hazard with the most adverse effects on lives and livelihoods. Vulnerability analysis and disaster impact assessments were done and showed that community-based preparedness and EWS were very weak: and unexpected flooding led to big losses in livelihood sources and infrastructure.

Project Outcomes: These included the following:

- Rainfall and river water data collection and dissemination systems set up in 2 Traditional Authority areas (TAs);
- 1,289 households, eight schools and 110 'first responders' trained to anticipate floods and equipped to respond;
- Two area and 11 village Civil Protection Committees (CPCs) trained in disaster management and functional;
- Flood contingency plans developed in the two TAs by trained CPCs;

- Flood control structures constructed;
- Quarterly inter-agency project review, two inter district, 2 regional and one national consultative workshops held;
- Disaster management best practices widely disseminated nationally and regionally. Four coordination meetings between watershed districts held;
- Watershed districts include natural resource management in their development plans;
- Weekly public flood awareness sessions in print and electronic media and through religious institutions during rainy season;
- Community awareness levels, particularly of children, women and the elderly, of flood management increased;
- 2 irrigation schemes established and functional; Increase in crop production from irrigation facilities.

Good Practice: The CBFFEWS was tested in real situation and found very instrumental in the issuance of timely warning messages. In 2009 early April efficient and effective coordination between Civil Protection Committees along Mwanza river led to prevention of loss of lives and livestock down the river in Chikhwawa district. People were warned in time to avoid the river bank it would have been another story if the huge volumes of water that came down river after some hours had found people and livestock within the banks. In order to ensure scaling up of the initiative in other flood prone areas and linking the system to national EWS a consultative meeting was held with the Departments of Water Resources and Climate Change and Meteorological Services to lobby government to incorporate the community based aspect into the national system and scale up the initiative into other flood prone areas. The Department of Water Resources is now (2013) developing National Guidelines for Community Based Flood Forecasting and Early Warning System (CBFFEWS), linking both the top and bottom oriented approaches, to be shared with all stakeholders involved in flood risk.

Lessons learned: There was a need for user-friendly methods of communication and a simulation exercise, to reach those who are not literate. There was a need to spend more time and resources on public awareness to highlight the importance of preparedness versus response. Preparedness is cheaper than response and helps to save lives and property in time of calamity. Community structures had limited financial capacity and more efforts need to be made towards helping the committees establish a sound financial base. In a project that involved collaboration with other partners it was necessary to balance the time between coordination meetings with partners and actual implementation of activities. Failure to do this resulted in either of the two aspects being negatively affected. Many challenges identified by the project are linked to high illiteracy levels, which hamper dissemination of information through written messages. Thus communication strategies at local level needed to be carefully designed. Villagers also had a poor attitude towards the disaster preparedness project, because, over the years of disaster relief operations, they had become used to receiving handouts. Consequently, mindset-changing campaigns were necessary in order to instill the spirit of voluntary participation. Poor cell phone network for the community-based and people-centered early warning suggests that there is a need to have a back-up system for communication between the water gauge readers and the civil protection committees.

Key success factors: Active participation of vulnerable communities is paramount to the effective planning and implementation of any disaster risk reduction intervention. The CBFFEWS provides the opportunity to ensure that targeted communities at risk to floods take an active role in the gathering and analysis of information to timely issuance of early warning messages of impending flooding. The initiative which uses hydrometric scales, rain-gauges and communication equipment such as megaphones and cell phones provides an opportunity for the bottom-up approach than the top-bottom mechanism as in the case of current government initiative which is mostly a top down and besieged with intermittent issuance of warning messages due to a number of critical logistical problems. Where the CBFFEWS has been established communities have hailed the initiative as it provides them the opportunity to actively take part in the process and ensure timely issuance of warning messages to save lives and property in times of flooding. The involvement of communities in the identification of strategic places for hydrometric scales and rain-gauges, capacity building of community volunteer gauge readers and first respondents contribute to the success of the initiative.

Potential for replication: It is easy to replicate and sustain because government structures are already involved but what was missing is the active community participation. Their participation also contributes to ownership of the equipment and system and community level vandalism is minimized.

11. CONCLUSIONS AND RECOMMENDATIONS

This study assesses the extent to which the SADC region has progressed in mainstreaming and implementing DRM interventions at national policies strategies, plans and programmes. The study intended to (a) identify, analyse and document the main disaster risks in SADC and associated damages and losses; (b) identify and analyse past, ongoing and planned interventions by SADC and main partner organizations; (c) identify and review key SADC and main partner strategy, policy, plan and programme documents to assess DRR integration; and document good practices on DRM.

The hazards, which appear to be increasing in frequency, magnitude and intensity, when combined with physical, social, economic and environmental vulnerabilities lead to preventable loss of lives and livelihoods. The vulnerability and lack of resilience to disasters in SADC is exacerbated by, among others, high poverty levels, lack of social protection policies and increasing urbanisation.

The findings from this study provide compelling evidence for increased advocacy for member states to mainstream DRM and CCA into national, sector and local government policies and programmes in order to integrate DRM, CCA and development into a single framework. Moreover, some member states, although in the minority, are yet to approve DRM national legal frameworks which have been in draft form for close to a decade. In addition, member states appear to be less keen

to invest in DRM and CCA, suggesting lack of awareness and evidence-based advocacy to increase budget allocations towards DRR and CCA.

The good practice case studies on DRM provide tools, lessons learned, key success factors and challenges and potential for replication. While the good practice case studies are context-specific, there are possibilities of adapting them to other contexts to provide evidence to policy-makers at regional, national and sub-national levels.

11. 1 Summary of findings

The findings are summarised as follows:

1. Hazard trends are on the increase

The hazard trend between 1900 and 2013 is generally on the increase with hydrometeorological hazards such as droughts, cyclonic storms and floods, having the highest frequency. The increase in hydrometeorological hazards is mainly attributed to the impact of climate change. Consequently, hydrometeorological hazards have also increased the risk of biological hazards, particularly the water-borne diseases such as malaria, cholera and dysentery. Equally, although the risk of environmental hazards is low, destruction of vegetation through, for example, wild fires, has increased the risk of droughts and floods. The geophysical hazards, such as earthquakes and volcanic activities have the lowest frequency. However, technological hazards, including industrial, traffic and miscellaneous accidents have become of major cause for concern, with South Africa and the DRC having the highest frequency of technological hazards.

2. Vulnerability to disasters on the increase: The high levels of poverty, increased exposure to hazards, cross-border influx, weak social protection policies and relatively weak institutional capacity undermine DRR measures in the SADC region. The majority (9 out of 15) of SADC countries fall in the low HDI category, with Lesotho, Zambia, Malawi, Zimbabwe, Mozambique and DRC falling below the sub-Saharan Africa HDI of 0.475. Against these poverty levels is increasing exposure climate change related to hazards, impact of HIV and AIDS, inadequate social protection policies to provide safety nets for the poor, increasing urbanization and trans-boundary risk which have increased vulnerability to disasters.

3. Limited sustainability of resilience and capacity development efforts

The SADC region has continued to enhance its capacity to enhance its resilience to disasters and climate change impacts, notably through policy and institutional frameworks. SADC adopted a five years DRM policy since 2001. The 2001-2006 policy was replaced by the 2007-2012 policy, which was also succeeded by the 2012-2016 policy. However, it is not clear how SADC draws lessons from the implementation of these policies to enable inform and strengthen the strategic options. In relation to institutional capacity development, SADC has continued to strengthen hazard, vulnerability and capacity analyses, information management and early warning systems. Relying on external funding from cooperating partners for

policy, institutional capacity and programme development as well as sustenance appears to be the major challenge both at the sub-regional and national levels.

3. Progress on HFA

Frequency of SADC countries self-reporting on HFA implementation:

In the exception of Mauritius and Tanzania that have submitted HFA progress reports for the three periods, two countries have reported twice while six countries reported once suggesting that either respective countries (1) have limited DRR technical or institutional capacity or (2) were not aware of how to complete the HFA monitor.

Progress on HFA Priorities

Inconsistencies in self-reporting make it difficult to generalize the extent of progress across SADC in implementing HFA priorities. Nonetheless, the countries that have submitted two or all the three reports generally show some progress in each of the five priorities with Mozambique scoring 5 in two of the indicators. However, the self progress reports are not subject to external review, there is a possibility that countries could have reported much more favourably than what is actually happening on the ground due to political and economic factors. For this reason, the peer-reviews may be more beneficial to member states than the current individual self-reporting system.

Mainstreaming DRM in national legal frameworks

The DRM legal frameworks that have either been passed or are in draft form incorporate the elements of the HFA. Also, these legislations provide national coordination mechanisms, decentralise power to sub-national authorities and are generally explicit on the role of sectors in mainstreaming DRR. However, there are slight variations in the power and authority accorded to the NDMO to effectively mainstream and implement DRR. In Zimbabwe and South Africa, the NDMO is one of the directorates in a ministry suggesting limited power and authority compared with Namibia and Zambia where the NDMO is located in either in the president's office or OPM. In relation to funding the legislations were explicit on response and less explicit on prevention, with the former regarded as the NDMO responsibility while the later is assumed to be a sector ministry responsibility.

Mainstreaming DRR in national policy frameworks

The DRM policies that have either been passed or are still in draft form generally set the basis for DRM mainstreaming. The policies are also not only coherent with the global, regional and national frameworks but also incorporate DRM tools including risk assessments, for example, hazard, vulnerability and capacity assessments (HVCA) and environmental impact assessments. The policies are also more explicit than the legislations on sector responsibilities, stakeholder and affected communities' participation, multi-hazard early warning systems, risk-sharing transfer mechanisms, trans-boundary risks, preparedness, response and recovery. While policies appear to be clear on sources of funding, they are less clear on the ratio of

the national budget for DRM. As a result, DRM appears to be skewed towards response rather than prevention.

Mainstreaming DRR in national strategies and plans

Of the sampled countries, only Namibia had an approved plan the government while the Zimbabwe's DRM strategy was in draft form. This could suggest that SADC member states were still facing challenges to operationalise DRM mainstreaming and implementation. Notwithstanding that the two plans were underpinned by DRM conceptual and global, regional and national policy frameworks, they differed in many respects. What is worth noting is that while Namibia's plan provides detailed information about what needs to be done, it could have been much more focused if there was a timeframe to differentiate it from a generic risk management plan. In contrast, the Zimbabwe draft DRM strategy has a timeframe (2012-2015) to allow the DRR community to review the successes, share good practice and lessons learned.

DRR Mainstreaming in national, sector policies and strategic plans

In the exception of Zimbabwe, the mainstreaming of DRM across sectors in sampled countries appears to be generally low. There are, however, slight variations. In the exception of UNDAF and Climate Change policy documents, the key sectors, for example, health and education rarely refer to the DRM global, regional or national policy frameworks. Nonetheless, the health sector policies and strategies, because of the nature of their mandates, implicitly incorporate DRM tools and activities, such as risk assessments, malaria prevention, disease surveillance, early warning, and emergency preparedness and response.

11.2 Recommendations

1. In countries where the DRM legislations, policies and strategic plans are either non-existent or in draft form, consider strengthening advocacy measures to influence policy-makers to accord them high priority on their agenda.
2. Taking into account that DRM is a cross-cutting issue, in countries where NDMO are directorates under line ministries, consider advocating that they be located in either the office of the president or Office of the Prime Minister to increase their power and authority over sector ministries.
3. That NDMOs advocate for the incorporation of DRR budget lines in sectors and decentralised structures.
4. To add more value to the HFA monitor self-reporting system, consider establishing regional peer-reviews of DRR progress to (a) reduce the possibility that countries could be reporting much more favourably than what is actually happening in practice; and (b) share lessons of good practice.
5. Consider aligning time-framed DRM strategies and plans with the global and regional frameworks to improve the measurement of progress and, to some extent, improve the efficiency of the reporting using the HFA monitor.
6. Strengthen DRR capacity for sectors (a) through stand-alone projects in order to increase knowledge, skills and expertise to form the basis for DRR mainstreaming into sector policies, programmes and projects, and (b)

supporting them to establish baselines on DRR to ensure identification of gaps in DRR that will support the budgeting process.

7. To address trans-boundary risks, specific resource mobilisation should take a region-wide approach rather than by individual country or individual donor which could reduce efficiency and timeliness.

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Annexes

1. Terms of Reference

Subregional Assessment on Mainstreaming and Implementing Disaster Risk Reduction Measures in Southern Africa

1. Background

Disasters are increasing in number, frequency and severity in Africa as a result of escalation of hazards such as drought and floods in particular. These hazards are predicted to increase with climate change and further worsen the incidence of associated disasters in the region.

Disasters strongly affect development patterns in afflicted countries through loss of lives, damage to physical, natural and environmental assets, losses in human and financial wealth, erosion of social capital and governance systems. In 2008, there were 96 disasters recorded in sub-Saharan Africa. They included 44 floods and nine droughts that affected 16.3 million people. The resultant economic losses incurred were estimated at one billion dollars.

Despite the significant impact of natural disasters on Africa's core development sectors (such as agriculture, energy, health, infrastructure, education, and environment), disaster risk reduction (DRR) measures continue to be inadequately integrated into and poorly implemented within the framework of development policies and strategies at various levels in the region. The consequence is that every disaster occurrence results in enormous set back on food security, economic growth, poverty reduction, progress towards achievement of the Millennium Development Goals (MDGs) and overall sustainable development.

Urgent responses including concrete implementation actions are therefore needed to minimize the enormous economic losses, loss of lives and livelihoods, and reversals in development gains and other impacts associated with natural disasters. As such effective DRR measures need to be formulated and successfully integrated into and implemented within the framework of development strategies and programmes at regional, subregional and national levels. Given the projected disproportionate impacts of climate change in the region, climate change adaptation interventions need to be integrated with DRR measures or interventions.

It is in light of the above that the United Nations Economic Commission for Africa (ECA) jointly with the United Nations Inter-Agency Secretariat of the International Strategy for Disaster Reduction (UNISDR) developed a project on "*Strengthening Capacities of African Policymakers to Mainstream Natural Disaster Risk Reduction into National and Regional Development Policies and Strategies in Africa*," which has received funding from the UN Development Account (DA). The objective of the

project is to strengthen the capacities of relevant regional, sub-regional and national entities to mainstream disaster risk reduction (DRR) into regional, sub-regional and national development strategies to contribute to meeting the MDGs and the attainment of sustainable development goals in Africa. The planned activities will assist in translating existing DRR strategies at various levels into concrete actions on the ground to enhance resilience of affected communities.

Project activities are mainly targeted at two selected Regional Economic Communities (RECs) and their members States. These two RECs are the Economic Community of West African States (ECOWAS) and the Southern Africa Development Community (SADC).

Against the above backdrop, a consultant is being sought to undertake a comprehensive assessment on mainstreaming and implementing disaster risk reduction interventions within the framework of subregional development strategies, plans and programmes. This report will provide input to the preparation of the regional assessment report. This report will serve as a key resources for the subregional DRR capacity development workshop which will among others showcase and promote good practices to scale up both mainstreaming and implementation of DRR measures as part of development frameworks.

2. Objective and tasks of the consultancy

Objective

The overall objective of this consultancy is to produce a comprehensive and analytical Subregional Assessment Report on Mainstreaming and Implementing Disaster Risk Reduction Programmes and Actions in Southern Africa.

Consultancy tasks

In order to accomplish the above objective, the consultant will carry out the following tasks:

- (a) Identify, document and analyze the main disaster risks, and where applicable identify and document any disaster events in the subregion and provide quantitative and qualitative analysis of the social, economic and environmental damage and loss associated with the disasters in the subregion.
- (b) Identify and analyze past, on-going and planned DRR interventions by the REC and its main partner organizations.
- (c) Identify and review key REC strategy, policy, plan and programme documents including those of its partner organizations, and assess the extent to which disaster risk reduction interventions are integrated or mainstreamed into these documents, including at the implementation stage.
- (d) Identify, document and analyze the following, with a view to promoting mainstreaming and implementation of DRR activities as part of development frameworks:
 - (i) Main tools and approaches applied/used by the REC and its partners to mainstream and implement DRR activities at subregional level;

- (ii) Synergy/complementarity and integration of DRR and climate change adaptation interventions/frameworks; and
- (iii) Good practices as well as success factors and lessons learned in mainstreaming and implementing DRR interventions at subregional level.

A good practice should meet or entail, where applicable, a combination of the following attributes among others:

- (i) Addressing/managing cross-boarder disaster risks and disasters;
 - (ii) Ownership of the practice/measures/interventions by various stakeholders;
 - (iii) Adequate backing by a sound statistical and information basis;
 - (iv) Participation and involvement of all stakeholders including non-traditional DRR interest groups;
 - (v) Effective institutional arrangements for DRR;
 - (vi) Consideration of the social, economic and environmental dimension;
 - (vii) Moving from policy/strategy and plans to concrete on the ground results;
 - (viii) Effectiveness and successfulness of the practice in DRR and enhancing resilience;
 - (ix) Replicability of the intervention/practice, where applicable;
 - (x) Sustainability of proposed/adopted measure/practice.
- (e) Provide well-informed, action-oriented recommendations to scale up effective integration/mainstreaming and implementation of DRR activities as part of cooperation and development frameworks at subregional and national levels.
- (f) In order to carry out the tasks above the consultant will:
- (i) Undertake extensive desk review to collect data and information relevant to the assignment. In this regard the consultant will among others acquire and review where applicable documents on the following:
 - Subregional DRR strategies and frameworks;
 - Key subregional development strategies, plans and programmes;
 - Strategies and programmes REC partners and collaborating organizations at subregional level; and
 - National reports/strategies/plans/programmes on DRR and development. In particular the consultant will draw from reports of the in-depth national assessments carried out in two selected countries in the subregion
 - (ii) Review subregional climate change adaptation frameworks; and

- (iii) Consult selected institutions at subregional and national levels to gather in a timely manner relevant and up to-date data and information on DRR with a particular emphasis on the extent, tools and approaches used, best practices and lessons learned in integrating and implementing DRR activities.
- (g) Prepare and submit for peer review, a comprehensive and analytical draft Subregional assessment report on mainstreaming and implementation of DRR. The report will be prepared using both quantitative data (charts, tables and graphs) and qualitative information. The report shall cover, but not be limited to the issues identified in (a) to (e) above. Description of good practices should be included in boxes.
- (h) Finalize the report on the basis of comments and inputs provided by key stakeholders.
- (i) Peer-review and provide inputs to the regional assessment and good practice report on DRR mainstreaming and implementation.

Prepare and make a presentation of the assessment report at the subregional capacity building workshop on DRR mainstreaming and implementation for Southern Africa subregion.

3. Duration of the assignment and time lines

The assignment is expected to last two work-months, spread over a period of six months, from 1 July 2013 to 31 March 2014 and will be executed in accordance with the following time lines:

Time frame	Consultant's deliverables
One week after signature of the contract	Submits to ECA an inception note, including the conceptualization, work plan for the assignment and report outline
2-4 weeks after signature of the contract	Consults with selected institutions at subregional and national levels to collect data and information for the purpose of preparing the report.
6 weeks after signature of the contract	Submits the first draft report
Within one week after receiving the first draft	[ECA, UNISDR, REC and other stakeholders review and provide comments on the draft report.
7 weeks After signature of contract (about third week of August 2013)	Submits a revised draft report
End of August/beginning September (within two weeks after receipt)	Provides comments and inputs to the Regional Assessment Report
Third/fourth week of November 2013	Participates in subregional capacity building workshop and presents/shares findings of the Subregional Assessment report

4. Deliverables and other provisions

- (i) A comprehensive and analytical subregional assessment report on mainstreaming and implementing disaster risk reduction programmes and actions in Southern Africa.
- (ii) A power point presentation at the subregional capacity Development Workshop; and
- (iii) Comments and inputs to the regional report on mainstreaming and implementation of disaster risk reduction programmes and actions.

All the outputs shall be prepared in English or French. Except for the power point presentation, all outputs shall be prepared using single line spacing, times new roman 12 font size, contain page numbering, list of acronyms, a table of contents, foot notes, references, relevant annexes and appendices.

5. Reporting

The consultant shall report to, and perform the assigned tasks under the guidance and direct supervision of ECA in consultation with UNISDR and REC.

6. Qualifications

Education: Advanced university degree (Master's degree or equivalent) in development studies, economics, sustainable development, environmental, social sciences or related fields is required. Postgraduate training in disaster risk management will be an added advantage.

Experience: A minimum of seven years of progressively responsible experience at the national or international level in disaster risk reduction, development or related fields is required. The candidate must demonstrate a good knowledge and understanding of disasters and DRR issues, challenges and opportunities at national or subregional and regional levels in Africa. Experience in developing and integrating DRR considerations and interventions into development policies, programmes and plans would be an advantage.

Languages: He/she must be fluent in English or French and possess excellent written and oral communication skills. Working knowledge of the other would be an advantage

Other Skills: The candidate should also have good publication record, including in the field of disaster risk reduction. He/she must have good networking skills and proven ability to speak in public.

2. Questionnaire

LEGAL FRAMEWORK

1. Does your country have a DRR legal framework that was modified or created in or after 2005 to comply with the Hyogo Framework for Action, the African Union/NEPAD and SADC DRR strategies? Yes or NO

Please explain your answer?

2. Does the legal framework provide a clear DRR institutional arrangement which is decentralised at all levels? Yes or NO

Please explain

3. Does the legal framework provide a firm basis for mainstreaming DRR into sector policies? Yes or NO

Explain your answer

4. Does a functional multi sectoral DRR National Platform exists? Yes or NO?

Explain your answer

5. Do functional multi sectoral DRR Platforms exist at the sub-national levels e.g. province/region and districts? Yes or NO?

Explain your answer

6. Does the legal framework provide some mechanisms for funding DRR activities implementing DRR for the coordinating body and for the sectors? Yes or NO

Please explain your answer

7. Does the legal framework provide some mechanisms for wider participation?

Explain your answer

POLICY FRAMEWORK

8. Does your country have a DRR policy framework? Yes or NO

9 Does the policy framework clearly state the integration of DRR into sectors?
Yes/NO

10. Does the policy framework have an implementation framework or strategy?

11. Does the policy framework outline the funding mechanism?

12. Does the United Nations Development Assistance Framework incorporate DRR?

13. Have UN agencies policies reflect the UNDAF policy?

14. Have sector policies been developed in the following sectors which take into account the five actions of the Hyogo Framework as well as the elements of the Africa and SADC DRR strategies?

- Health, particularly WASH Yes or NO
- Education
- Food Security Yes/No
- Social Protection Yes/NO
- Land use and Natural Resources Management Yes/NO
- Planning and human settlements – do you have building codes/ policies and are they enforced? Yes/No
- Post-disaster recovery policy? Yes/No

14. Does the policy framework clearly state the funding mechanisms for sectors?
Yes/NO

PROGRAMME AND PROJECTS

15. Does your country have guidelines for mainstreaming DRR into sector programme and project design, implementation and evaluation? Yes/No

16. If No, does your organisation or department have guidelines for mainstreaming DRR in programme design, implementation and evaluation?

17. Are your programme and project designs informed by national and local risk assessments (including trans-boundary risks) based on hazard, vulnerability and capacity data?

18. What challenges have you faced in mainstreaming DRR in your programmes?

19. What challenges have you faced in implementation DRR?

20. What do you suggest should be done to overcome these challenges?

21. What role do women, children, youth, men, elderly and people with disability play in DRR programming and project activities?

22. What are the main achievements in implementation of DRR related measures? Please explain the success factors.

GOOD PRACTICE CASE STUDIES

21. Please send us some programme / project exemplars of good practice which can be shared with partners. These case studies should be on mainstreaming and/or implementation of DRR and should include the following:

- Addressing/managing cross-border disaster risks and disasters;
- Ownership of the practice/measures/interventions by various stakeholders;
- Adequate backing by a sound statistical and information basis;
- Participation and involvement of all stakeholders including non-traditional DRR interest groups;
- Effective institutional arrangements for DRR;
- Consideration of the social, economic and environmental dimension;
- Moving from policy/strategy and plans to concrete on the ground results;
- Effectiveness and successfulness of the practice in DRR and enhancing resilience;
- Replicability of the intervention/practice, where applicable;
- Sustainability of proposed/adopted measure/practice.

3: Summary of Climate Impacts in Southern Africa

Areas of Concern	Countries affected
Current sensitivity to climate and weather	
Significant increase in heavy rainfall events (observed); evidence for changes in seasonality and weather extremes. Intensifying dipole rainfall pattern on the decadal time-scale - characterised by increasing rainfall over northern and declining amounts over southern sector of eastern Africa.	Angola, Namibia, Mozambique, Malawi, Zambia
Faster increase in minimum temperatures than maximum or mean temperatures.	South Africa
In different parts of southern Africa a significant increase in heavy rainfall observed. Evidence for changes in seasonality and weather extremes.	Angola, Namibia, Mozambique, Malawi, Zambia
Recurrent floods are linked, in some cases, with ENSO (El Niño-Southern Oscillation) events – loss of human life and economic degradation. Even countries located in dry areas have not been flood-free.	Mozambique
Future Weather	
By 2080- 2100 could be more frequent and intense tropical storms in the southern Indian Ocean.	Seychelles
Future Trends	
Increased summer rainfall over central and eastern plateau and Drakensberg Mountains. Decrease in early summer (October to December) rainfall and an increase in late summer (January to March) rainfall over the eastern parts of southern Africa.	SA, southern Africa
Adaptation	
Initial assessments in Berg River Basin show costs of not adapting to climate change can be much greater than the costs of adaption.	SA
Proactive rather than reactive strategies enhance adaptation - agricultural capital stock and extension	Zimbabwe
Water	
About 35 million people in the region still using unimproved water sources; thus contributing to a range of health problems including diarrhoea, intestinal worms and trachoma. Much of the suffering from lack of access to safe drinking water and sanitation is borne by the poor, those who live in degraded environments, and overwhelmingly by women and children.	Largest proportion affected - Mozambique, then Angola, SA, Zambia and Malawi.
Changes in runoff and hydrology - of great concern are those dependent on groundwater supply.	Southern Africa,
Impact of extreme droughts and intense rainfall on lake systems	Malawi
Changes to maximum and minimum stream-flow through to 2050 and to 2100 with a significant reduction in stream-flow.	South Africa, Southern Africa
Health	
Areas currently with low rates of malaria transmission could become highly suitable.	Angolan, Eastern and southern Africa
By 2100, changes in temperature and precipitation could alter malaria distribution with previously unsuitable areas becoming suitable for transmission. Strong southward expansion of the transmission zone will probably continue.	Zimbabwe, SA
Ecosystems	
Increasing desertification and by 2099, dune fields may become highly dynamic	Northern SA to Angola and Zambia
Endangered species associated with these ecosystems, including manatees and marine turtles, could also be at risk, along with migratory birds.	Seychelles

Changes in estuaries mainly as a result of reductions in river runoff and inundation of salt marshes following sea-level rise. Losses of biomes and indigenous animals.	SA
Human 'drivers' are also shaping ecosystem services that impact on human well-being – increasing deforestation.	Zimbabwe, Malawi, eastern Zambia, central Mozambique
Agriculture	
Positive aspects - growing seasons in certain areas may lengthen due to a combination of increased temperature and rainfall changes, but some areas are expected to be adversely affected.	Parts of southern Africa such as Mozambique
Fisheries could be affected by different biophysical impacts of climate change	Namibia
Drop in yields from rain-fed agriculture of up to 50% during the 2000-2020 period and in crop growth period. Falls of 90% by 2100, with small-scale farmers being the most severely affected.	SA
Energy	
Increased fuel poverty in areas reliant on biomass as a fuel.	Tanzania, Mozambique and Zambia
Settlements and Infrastructure	
Impacts on settlements and infrastructure for extreme climate events – floods and storms	Mozambique, western Cape, SA

Source: Boko, M., I. Niang, A. Nyong, C. Vogel, A. Githeko, M. Medany, B. Osman-Elasha, R. Tabo and P. Yanda, (2007)