Assessment report on mainstreaming and implementing disaster risk reduction in Mozambique





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Acronyms and Abbreviations

AU---------- African Union
CBDRR ---------- Community based disaster risk reduction
CC---------- Climate change
CCA---------- Climate change adaptation
CCGC---------- Conselho Coordenador de Gestão de Calamidades
CCPCCN -------- Conselho Coordenador de Prevenção e Combate as Calamidades Naturais
CENOE ---------- Centro Operativo de Emergência
CLGRC---------- Comité Local de Gestão de Risco de Calamidades
CERUM---------- Centro de Recursos de Uso Multiplo
CTGC ---------- Conselho Tecnico de Gestão de Calamidades
DARIDAS ------- Direcção de Desenvolvimentodas Zonas Áridas e Semi-Áridas
DFID ---------- Department for International Development
DPCCN---------- Departamento de Prevenção e Combate as Calamidades Naturais
DRR ---------- Disaster risk reduction
ECOWAS-------- Economic Community of West African States
ENAMMC------- Estratégia Nacional de Adaptação e Mitigaçãoàs Mudanças Climáticas
FAO ---------- Food and Agriculture Organization of the United Nations
GDP---------- Gross domestic product
IFRC---------- International Federation of Red Cross and Red Crescent Societies
INGC---------- Instituto Nacional de Gestão de Calamidades
IPCC ---------- Intergovernmental Panel on Climate Change
MICOA ---------- Ministério para a Coordenação da Acção Ambiental
MINAG ---------- Ministério da Agricultura
MPD ---------- Ministério de Planificação e Desenvolvimento
MPF---------- Ministério de Plano e Finanças
MTN ---------- Metical Novo
NAPA ---------- National Adaptation Plan of Action
NEPAD ---------- New Partnership for Africa's Development
NGO ---------- Non-governmental organization
PARP---------- Plano de Acção para Redução da Pobreza
PPCR---------- Pilot Programme on Climate Resilience
PQG---------- Five-Year Programme
SADC---------- Southern Africa Development Community
UEM ---------- Universidade Eduardo Mondlane
UNDAF---------- United Nations Development Assistance Programme
UNDP ---------- United Nations Development Programme
UNISDR --------- United Nations Office for Disaster Reduction
WFP---------- World Food Programme

Acknowledgements

The present report on mainstreaming and implementing disaster risk reduction in Mozambique was prepared within the framework of the United Nations Development Account project on strengthening capacities of African policymakers to mainstream natural disaster risk reduction into national and regional development policies and strategies in Africa. The project was conceived and implemented jointly by the Economic Commission for Africa (ECA) and the United Nations Office for Disaster Risk Reduction (UNISDR).

The report was prepared under the overall guidance of Fatima Denton, Director of the Special Initiatives Division of ECA, and Sharon Rusu and Pedro Basabe, the current and former heads of the UNISDR Regional Office for Africa. Isatou Gaye, Chief of the Green Economy and Natural Resources Section of the Special Initiatives Division, provided substantive guidance and supervision in the preparation of the report.

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Executive summary

The world is facing unprecedented disaster occurrence because of increased hazards and exposure. Although disasters are global events, they affect African countries most adversely because of low resilience. In order to withstand disasters, African countries approved, in 2004, the Africa Region Disaster Risk Reduction Strategy with the aim to:

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

This assessment report on the mainstreaming and implementing DRR in Mozambique was prepared within the framework of the United Nations Development Account (DA) project on mainstreaming disaster risk reduction in national and regional development strategies. Their purpose is to support efforts to meet the Millennium Development Goals and sustainable development goals in Africa. The Economic Commission for Africa (ECA) and the United Nations Office for Disaster Risk Reduction (UNISDR) jointly designed the project.

The report presents the findings of the assessment of progress and experiences in mainstreaming the DRR international development frameworks in Mozambique. The Secretariat of Southern African Development Community (SADC), ECA and UNISDR jointly commissioned the assessment.

The report's findings are based on information obtained through literature review, interviews with key informants and focus group discussions.

Mozambique is a disaster prone country. It lies along the coast of the Indian Ocean and downstream main subregional basins of rivers such as the Zambezi and the Limpopo. The country's geographical location, combined with the limited resilience of the majority of its population – due to prevalent poverty –create perfect conditions for disaster occurrence. Mozambique has a long history of man-induced or natural disasters**.**

Statistics from the National Institute for Disaster Management (INGC) show that droughts, floods, cyclones, and strong winds are the main causes of disasters. Between 1956 and 2008, INGC recorded ten main droughts that affected 16,444,000 people and claimed 100,200 lives; 20 flood events that affected 9,039,251 people and claimed 1,921 lives; and 13 cyclones and five strong winds that together affected 3,002, 400 people and claimed 317 lives.

The social, economic and environmental impacts of these disasters were hard to capture in full due to limited documentation. They destroyed social and economic infrastructure and networks such as roads, schools, hospitals and farms, and directly impacted on the national Gross Domestic Product (GDP). For example, it has been estimated that between 1980 and 2003, disasters cost the national economy $ 1.74 billion. However, this estimate largely underestimates the loss and impact that the poor suffer, because official statistics do not capture them.

Analysis of past and ongoing planned DRR actions shows that Mozambique has been strengthening its capacity to deal with disasters. In 2006 and in line with the Hyogo Framework of Action (HFA), the Government approved a ten year DRR master plan. The overall goal of this plan is to reduce the death toll and economic loss due to disasters. This is to be achieved through actions to reduce vulnerability (e.g., by reinforcing disaster prevention and mitigation) and to strengthen disaster preparedness and response. To achieve the outlined objective, several DRR actions and those aimed at helping to adapt to climate change have been implemented. DRR is an integral part of the national planning and funding system. Every year, the Government funds DRR actions, mostly by integrating DRR into district planning and establishing regional centres for emergency response (CENOEs). DRR actions have been decentralized and therefore brought closer to disaster prone areas.

INGC is the key DRR actor in Mozambique. It spearheads the formulation of policy frameworks, and coordinates DRR implementation. To this end, INGC has been expanding thematically and geographically, shifting from reactive disaster response to integrate issues of disaster prevention, disaster preparedness, disaster response, early recovery, reconstruction and resettlement. Other actors such as the Ministry of Environmental Affairs (MICOA) and the Ministry of Planning and Development (MPD) and the United Nations system have all been very influential in strengthening national capacity and in mainstreaming DRR into policies and programmes in Mozambique.

Some of the most significant actions include the on- going Pilot Programme on Climate Resilience (PPCR), under the MICOA and the MPD. The Programme focuses on creating resilience across different sectors such as road, agriculture, the coastal area and water management. The others are interventions include the "United Nations delivering as one" programme on strengthening local risk management and mainstreaming DRR in Mozambique; and the Save the Children project on floodplain management in the Zambezi valley.

As a result of all the above efforts, Mozambique is now one of the international references on DRR and is likely to achieve, by 2015, most of the expected HFA outcomes. The country has clear structures to respond to drought, flood, and cyclone events, and is politically and financially committed. It has also approved its national vision and strategy on adaptation to and mitigation of climate change (2013-2025), which has a clear focus on DRR.

Assessment of the extent to which DRR has been mainstreamed into national plans and sectoral and local level strategies showed that DRR has been embedded into the Government's five-year plan (PQG), the national five-year strategy for poverty alleviation (PARP), and annual plans and budgets (PES). Disaster prone districts have designed annual contingency plans, and integrate and budget for DRR in their annual plans (PESOD). Additionally, key line ministries have focal points that oversee DRR integration into their sectoral planning. Partners such as the United Nations system have also mainstreamed DRR into their development framework.

The Government's main tool in to mainstream DRR is the Coordinating Council for Disaster management (ConselhoCoordenador de Gestão de Calamidades – CCGC). It is a high ranking council that the country's Prime Minister chairs, and is composed of ministers from key line ministries. This decision-making council provides political support and allows key decisions on DRR to be mainstreamed sectorally and geographically.

Good DRR mainstreaming and implementation practices have evolved over the past 10 years. Among the most effective are: integration of DRR and CCA into the national planning and budgeting systems; design and funding of contingency plans; establishment of a community-based DRR ap-

proach; establishment of technological innovation centres in the drought prone areas; annual drills for flood and cyclone preparedness; and establishment of resettlement programmes in the highly flood prone areas along the main river basins.

Despite these achievements, the country is still at a crossroads in terms of DRR. Over the past years, development actions have reframed old risks and brought along new challenges. The following recommendations were made on the basis of findings:

i) The Government needs to urgently recognize and address urban and social risks, which have so far not been the central concern of DRR in Mozambique.
ii) The Government should strengthen environmental protection mechanisms, especially as integral priorities of new investments in natural resources, such as gas and coal, to make sure that these do not generate new disaster risks or aggravate existing ones.
iii) In order to implement DRR measures, partners should provide more resources because the Government's capacity to extend resource allocation to DRR is limited.
vi) There is still a need to enhance DRR knowledge and cover all sectors and regions. Research on DRR and integration of cross-cutting issues such as gender, HIV and AIDS in DRR should be undertaken.
v) In order to scale up DRR, there is a need to strengthen DRR documentation and establish a better DRR information management and sharing system in the country. This could include the creation of a national DRR information sharing and management platform, which could also serve as a repository for DRR documentation.
vi) There is also a need to critically review and reform community-based DRR systems in order to enhance their performance.
vii) In order to scale up DRR measures, coherent and concerted inter-institutional and interregional coordination are necessary to enable synergies and avoid overlaps. In this connection, continuous interaction and dialogue with neighbouring countries to discuss and agree on, among others, key issues related to transboundary water management and DRR measures along the main river basins, should be strengthened.

1. Introduction

1.1 Background

Disasters are no longer a field of humanitarian action alone. They have become a matter of "good development". The vicious cycle of badly planned development and response to disasters is now the focus of all development and humanitarian professionals. Mainstreaming disaster risk reduction into development planning in order to enhance local resilience is widely proclaimed as the most effective way of addressing and reducing disasters worldwide.

Mozambique has been under continuous threat from disasters for a long time. During the past 50 years, 68 natural disasters hit the country, killing more than 100,000 people and affecting up to 28 million others. As much as 25per cent 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).

Recurrent disasters, triggered by natural hazards such as floods, cyclones and drought, have all been hampering attempts by the Government and its partners to reduce poverty levels. The 2008 poverty assessment showed poverty levels similar to those of 2003. Occurrence of frequent and intense hazards such as floods is the key underlying cause (MPD, 2010). In 2013, flooding in the Limpopo basin claimed about 117 lives, displaced 176,000 people and caused economic damage of about $513 million (INGC, 2013).

In July 2013, the Government announced that due to flooding, GDP growth for 2013 would be 1per cent lower, thus declining from the expected 8.4per cent to 7.4per cent. Overall, disasters swallow, on average, 1 per cent of the national GDP every year. Economic analysis of climate change impacts in Mozambique suggests that this could go up to 5per cent (World Bank, 2010). Mainstreaming and implementing disaster risk reduction (DRR) measures has therefore become crucial for the well-being and sustainable development of Mozambique.

This assessment report on mainstreaming and implementing DRR in Mozambique was prepared within the framework of the United Nations Development Account project on mainstreaming DRR in national and regional development strategies, in support of efforts to meet the Millennium Development Goals and attain sustainable development goals in Africa.

The Economic Commission for Africa (ECA) and the United Office for Disaster Risk Reduction (UNISDR) jointly designed the project. Key partners in project implementation included the Southern Africa Development Community (SADC), the Economic Community of West African States (ECOWAS), the African Union Commission (AUC) and the United Nations Development Programme (UNDP).

The report presents findings on the assessment of progress and experiences in mainstreaming the planning and implementation of DRR measures as part of Mozambique's national development

strategies, plans and programmes. The Secretariat of the Southern Africa Development Community (SADC), ECA and UNISDR jointly commissioned the assessment.

This report provided input to the preparation of the Southern Africa subregional assessment report. It also served as a key resource for the subregional DRR capacity development workshop which, among others, show-cased and promoted good practices to scale up mainstreaming and implementation of DDR measures as part of development frameworks.

1.2 Conceptual framework and methodology

1.2.1 Conceptual framework

Climate-related and other natural hazards have a tremendous impact on people's livelihood worldwide, especially in poor countries. The 2000 flooding in Mozambique claimed more than 700 lives and more than $600 million in economic loses. The 2004 tsunami alone, considered a major disaster in the 21st century, claimed the lives of more than 200,000 people. It affected and destroyed the livelihoods of more than 2.4 million in 12 countries across Asia and Africa. The tsunami accounted for nearly $8 billion direct damage on physical infrastructure (IFRC-RCS, 2005:197). Avoiding or reducing the risk of disaster has been part of the mandate of the United Nations since its establishment in 1945.

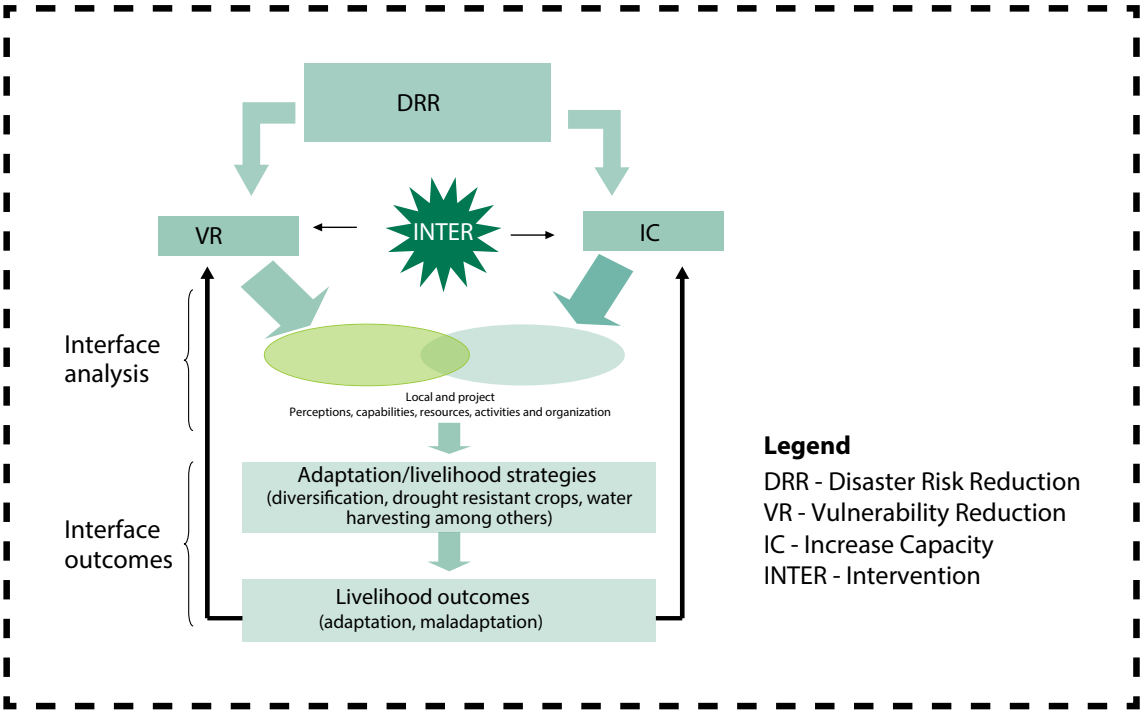
Disaster risk reduction aims at making people and asset less vulnerable to disaster impacts and fostering people's capacity to withstand them. Vulnerability is defined in different ways depending on the field of study. The climate change and disaster fields define vulnerability as the degree to which a subject (e.g., an individual, community, sub-group, structure, etc.) or system (social or natural) is susceptible to, and unable to cope with, the adverse effects of climate change, including climate variability and extreme events (adapted from IPCC, 2001: 6*)*. The (individual)capacity refers to people's own skills, resources and strengths that allow them to anticipate, cope with, resist and recover from hazard impact (adapted from DFID, 2005: 2).

Disaster risk is the likelihood, over a specified time period, of severe alterations in the normal functioning of a community or a society due to hazardous physical events that interact with vulnerable social conditions, leading to widespread adverse human, material, economic, or environmental effects that require immediate emergency response to satisfy critical human needs and that may require external support for recovery. Disaster risk reduction is a policy goal and objective. It comprises strategic and instrumental measures to anticipate future disaster risk; reduce existing exposure, hazard, or vulnerability; and improve resilience (IPCC, 2012).

Vulnerability consists of different dimensions. It includes a physical dimension with regard to the fitness of the local environment/ecosystems and to the geographical location of housing and other buildings, jobs, assets and how they relate to the hazards; a financial-economic dimension(people's financial power to prevent or respond effectively to disaster risks); a social dimension, which takes account of social networks that are relevant for withstanding disaster impacts; an informational dimension relating to assessment and use of climate and disaster reduction information; and an attitudinal dimension, that is, people's own beliefs and attitudes toward disasters and how they react to them.

All DRR actions need to focus on reducing people's vulnerability and enhancing their capacity to withstand disaster impacts (see figure 1).

Figure 1: Conceptual DRR framework



Source: Own construction

1.2.2 Methodology

This report is based on data and information collected and analysed as indicated below.

The report applied the following data collection methods:

i) A review of documents or desktop study – the following key documents were reviewed:
- The AU regional Disaster Risk Reduction strategy and the programme of action for the implementation of the strategy
- The Mozambican Master Plan for Disaster Risk Reduction
- The Mozambican Adaptation Action Plan (NAPA)
- The National Study on Climate Change and Disasters
- The National Paper on Poverty Reduction (PARP)
- The 5-year government programme
- The national Constitution
- The National Strategy on Climate Change (ENAMMC)
- The Annual Contingency Plans
- National Institute of Disaster Management (INGC) annual reports.

Besides these documents, theses, papers and consultancy reports on DRR in Mozambique were reviewed.

ii) Interviews: in total, 23people from different institutions working in DRR in Mozambique were interviewed in the capital Maputo and in Guijá, one of the districts 2013 floods affected most. Of particular relevance, the study interviewed staff from INGC, MPD and MICOA. The list of key stakeholders interviewed is presented in Annex 1.

iii) Focus group discussions: two focus group discussions (one composed of women and another of men) took place in Guijá district, to assess response and DRR mainstreaming after the event.

iv) Observations: this tool was used to witness what was being done for DRR in the flood prone districts of Chokwe and Guijá.

Collected data were analysed using the pattern-matching technique. In this technique, all data are clustered around a thematic area or points of interest. On the basis of the assessment objective, all gathered information (quantitative and qualitative) was grouped around a given objective and then discussed to bring out key lessons. For the case study, the good cases were chosen on the basis of the following criteria:

i) Ownership of the practice/measures/interventions by stakeholders;
ii) Adequate backing by a sound statistical and information basis;
iii) Participation and involvement of all stakeholders including non-traditional DRR interest groups;
iv) Effective institutional arrangements for DRR;
v) Consideration of the social, economic and environmental dimension;
vi) Moving from policy/strategy and plans to tangible on the ground results;
vii) Effectiveness and successfulness of the practice in DRR and enhancement of resilience;
viii) Replicability of the intervention/practice, where applicable; and
ix) Sustainability of proposed/adopted measure/practice.

1.3 Report outline

The report is divided into six chapters. This chapter provides an overview of the research's background, objectives, framework and methodology. Chapter 2 provides a review of the national disaster risks in terms of occurrence and trends of main hazards and their socioeconomic and environmental impacts. Chapter 3 presents main past and ongoing DRR actions that cover institutions, policies and planning frameworks. Chapter 4 discusses mainstreaming DRR and climate change into national plans and strategies. Chapter 5 presents good practices, success factors and lessons learned. Finally, chapter 6 presents key conclusions and recommendations from the assessment.

2. Review of national disaster risks

2.1 Overview of main hazards in Mozambique

Figure 2: Map of Mozambique

Source: Author construction based on Cenacarta database.

Located on the eastern coast of the southern Africa region (see figure 2), Mozambique is one of the poorest countries in the world. Its economic growth was impressive in the past, with a 15per cent reduction in absolute poverty over the 1997-2003 period. However, the poverty reduction percentage dropped from 69per cent to 54per cent (MPF et al., 2004) and by 2008, more than half of the population still lived on less than $1 per day, as poverty reduction stagnated at 54per cent (MPD, 2010). The Human Development Index ranks Mozambique close to the bottom, just above the Democratic Republic of the Congo and the Niger (UNDP, 2013:146).

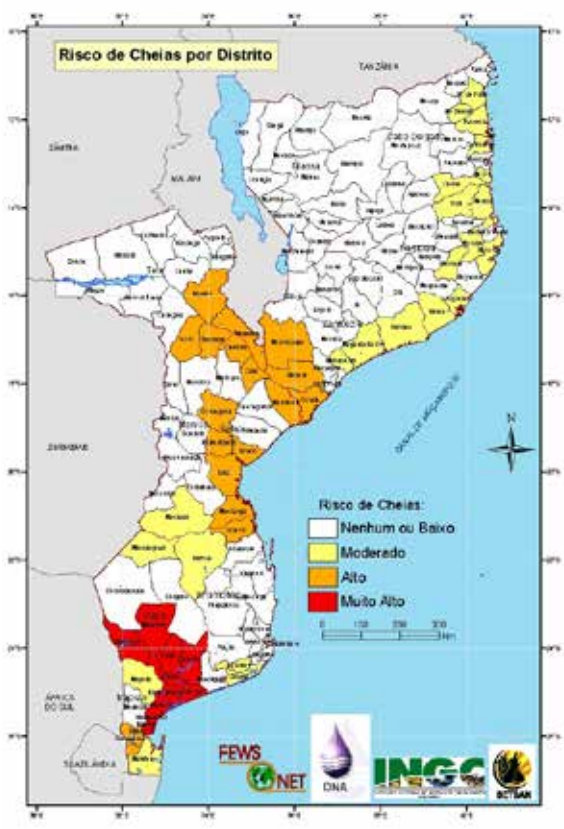
In 2008, nearly half of the children under the age of two were chronically malnourished, and more than half the population had no access to potable water and hospital care (UNDP and GoM, 2008:12). Due to prevalent poverty, Mozambique has been depending on external aid for more than 25 years. Mozambique is one of Africa's biggest aid receivers (about $65.6 per capita per year), and the world's eighth most aid dependent countries (Arndt et al., 2006:3; Renzio and Hanlon, 2007:3).

Disasters are a key factor of prevalent poverty. The Government has pointed out the occurrence of frequent and intense disasters in the country as a key factor of limited poverty reduction(MPD, 2010). The 2000 great flood is a case in point. It caused a drop in national GDP from an expected 10per cent growth to just 1.6per cent in 2000, and inflation rose from 2.9per cent in 1999 to 12.7per cent in 2000 (MICOA, 2011:9). The 2013flooding in the Limpopo basin claimed about 117 lives, displaced 176,000 people and caused economic damage of about $513 million (INGC, 2013). In July 2013, the Government announced that due to the flooding, the GDP growth for 2013 would be 1per cent lower, i.e., declining from the expected 8.4per cent to 7.4per cent.

Mozambique is highly vulnerable to natural hazards and disasters for a number of reasons. About 60per cent of the population live along the coastline. This area is vulnerable to an increasing occurrence of cyclones and rising sea levels, because nearly 45per cent of the country is 100 metres be-

low sea level. The country is also a lower riparian zone of nine international rivers, and more than 50per cent of the country's water flows depend on the countries upstream. Drought particularly affects the southern region in the arid and semi-arid regions in the Gaza and Inhambane provinces, while flooding mostly affects the Zambezi and Limpopo basins. About a quarter of the total Mozambican population is at risk from natural hazards (World Bank, 2010:8). Economic analysis of these hazards suggests that every major shock reduces Mozambique's GDP growth by 5.5per cent on average (World Bank ibid). The main disasters affecting Mozambique are floods, cyclones, droughts, and to a less extent, earthquakes. These are discussed below. The socioeconomic and environmental impacts of disasters in Mozambique are presented in the section 2.2.

Figure 3: Flood prone areas



Source: Fewsnet and INGC (2007).

Flooding scenarios in Mozambique have demonstrated a relatively well defined pattern with regard to their timing and geographical locations. They occur every two to three years along the seven major rivers that cross the country, namely the Incomati, Limpopo, Save, Buzi, Pungue, Zambezi and Licungos. The map (see figure 3) shows critical flood prone areas in Mozambique. Red symbolizes highest risk of flooding and white low/no flood risk.

The extent of flooding depends not only on the amount of rainfall in the country but also on the amount of rainfall in neighbouring countries, where flooding rivers originate. In 2000-2001, Mozambique experienced its worst flooding in 150 years. It affected about 2 million people.

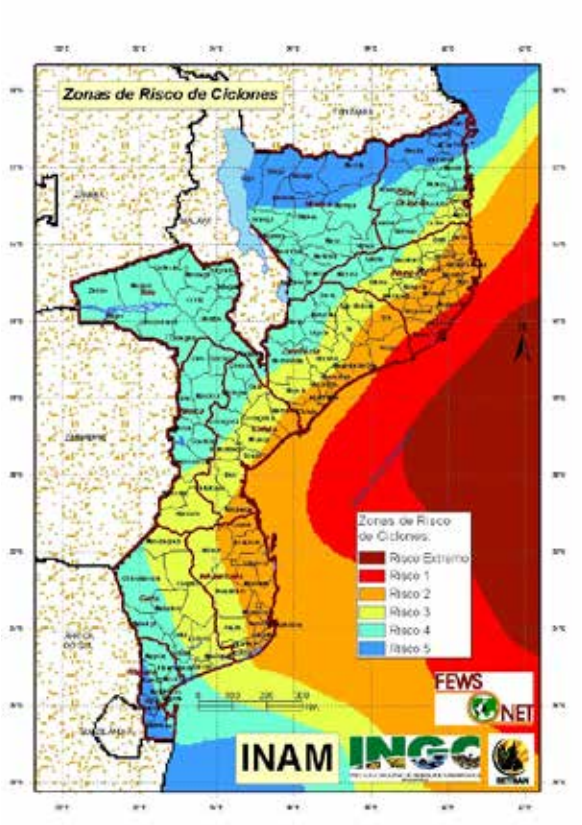
The most likely time for floods to occur is from November to March in the south of the country and from January to April in the centre and north, due to heavy rains in Mozambique and/or in the countries upstream. There is also a high probability of flooding as a result of cyclones. For example, the 2000 floods were accompanied by three cyclones: Eline, Gloria and Hudah. Floods tend to increase food insecurity, disease outbreaks and infrastructure damage. They also displace large numbers of people. Floods also expose people to homelessness, water-borne diseases and malnutrition, which make children chronically ill and elderly people even more vulnerable. The National Directorate of Water (DNA) monitors water flows and levels in the main river basins in the country and issues warnings in case of imminent flooding. Overall, INGC records (2009:3) show that between 1956 and 2008,20 flood events hit Mozambique, displaced 9,039,251 people and claimed 1,921lives. The table below is an overview of the main floods that have affected the country since 1980.

Table 1: **Main flooding events since 1980**

Year	Event
2013	Flooding along the Limpopo river basin: 176,000 people displaced; 117 deaths and economic losses of about $513 millions
2008	Flooding of the Zambezi river basin: 258,000 people displaced
2007	Flooding of the Zambezi river basin: 250,000 people displaced
2001	Flooding of the Zambezi river basin: 500,000 people displaced; 115 deaths
2000	Worst floods in 150 years. Unprecedented rains and three cyclones caused flooding of the Limpopo, Maputo, Umbeluzi, Incomati, Buzi and Save rivers, displaced 2 million people and claimed 640 lives
1999	Floods in the provinces of Sofala and Inhambane: heaviest rains in 37 years. National EN1 highway closed for two weeks, cutting off road traffic between the south and north of the country: 300,000 people displaced and 100 deaths
1997	Flooding of the Buzi, Pungue and Zambezi rivers. Road traffic to Zimbabwe interrupted for two weeks: 300,000 people displaced and 100 deaths
1996	Flooding of all southern rivers: 200,000 people affected
1985	Southern region affected by the worst floods in 50 years after 4 years of droughts: 500,000 people displaced
1981	Limpopo river basin: 500,000 people displaced

Source: INGC, 2013; INGC, UEM and FEWS NET (2011); INGC, 2009.

Figure 4: Cyclone prone areas



Source: Fewsnet and INGC (2007).

Tropical depressions or cyclones that enter Mozambique from the southwest of the Indian Ocean frequently hit the country's long coastal area. From November to April, the provinces most prone to this hazard are Nampula (Angoche district), Zambezia (Nicoadala district), Sofala (Dondo and Buzi districts) and Inhambane (Vilankulos and Massinga districts). The map (see figure 4) shows the geographical pattern of cyclone proneness in Mozambique. In red (along the coast) are the most highly prone areas, and in green (inland) the least prone areas. From January to March, there is a greater risk of cyclone occurrence. The National Meteorological Institute (INAM) monitors cyclone activity.

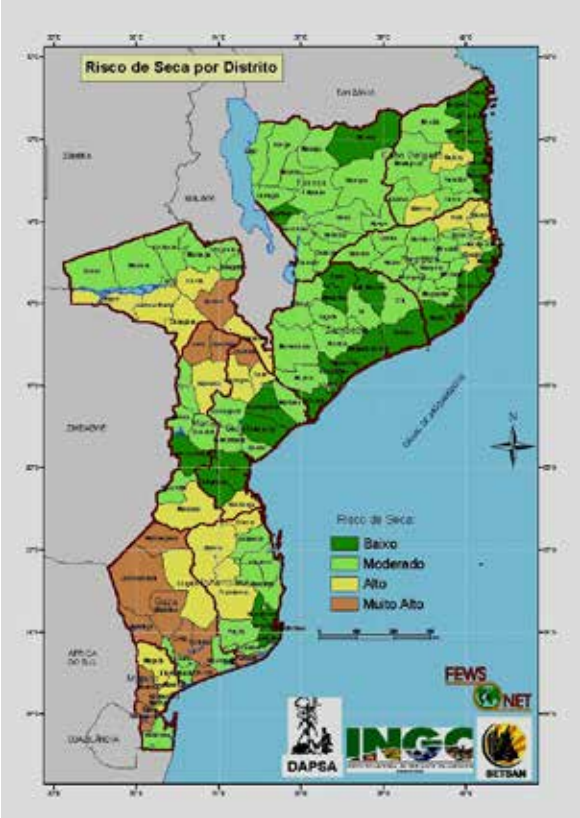
Mozambique has a flag-based warning system for local communities in the event of approaching cyclones. The blue flag means that cyclone will land within 24-48 hours; the yellow flag that the cyclone will land within 24 hours and, and the red flag that the cyclone will land within 6 hours. Data from INGC (2009:3) show that cyclones and strong winds have affected 3,002,400 people (about 600,480 households), whose houses or other properties, such as crops, winds have completely or partially demolished. The following table shows the main cyclones that have hit the country over the past 30 years.

Table 2: **Main cyclone events since 1980**

Year	Event
2008	Cyclone Jokwe: 200,000 people affected (their houses and/or other properties such as crops partially or totally destroyed)
2007	Cyclone Favio: 160,000 people affected (their houses and/or other properties such as crops partially or totally destroyed)
2003	Cyclone Japhet: 100,000 people affected (their houses and/or other properties such as crops partially or totally destroyed)
2000	Cyclone Udah: 11,000 people affected (their houses and/or other properties such as crops partially or totally destroyed)
2000	Cyclone Gloria:650,000 people affected (their houses and/or other properties such as crops partially or totally destroyed)
2000	Cyclone Eline: 650,000 people affected (their houses and/or other properties such as crops partially or totally destroyed)
1997	Cyclone Lisette: 80,000 people affected (their houses and/or other properties such as crops partially or totally destroyed)
1996	Cyclone Bonita: 200,000 people affected (their houses and/or other properties such as crops partially or totally destroyed)
1994	Cyclone Nadia: 900,000 people affected (their houses and/or other properties such as crops partially or totally destroyed)
1988	Cyclone Filão: 90,000 people affected (their houses and/or other properties such as crops partially or totally destroyed)
1984	Cyclone Demoina: 350,000 people affected (their houses and/or other properties such as crops partially or totally destroyed)

Source: adapted from INGC, UEM and FEWS NET, 2011.

Figure 5: Drought prone areas



Source: Fewsnet and INGC (2007).

Cyclical droughts, which occur every two to three years, have affected Mozambique. The south of the country has experienced drought for five of the last seven years. Droughts are likely to occur every year and are relatively chronic, particularly in the southern and central parts of the country (see figure 5 – brown represents highly drought prone areas and dark green no drought risk). It is not only the total amount of rainfall that determines the occurrence of drought, but its spatial and temporal distribution as well. Prolonged dry spells can easily lead to drought, particularly in remote areas, where agriculture is absolutely dependent on rain-fed crops.

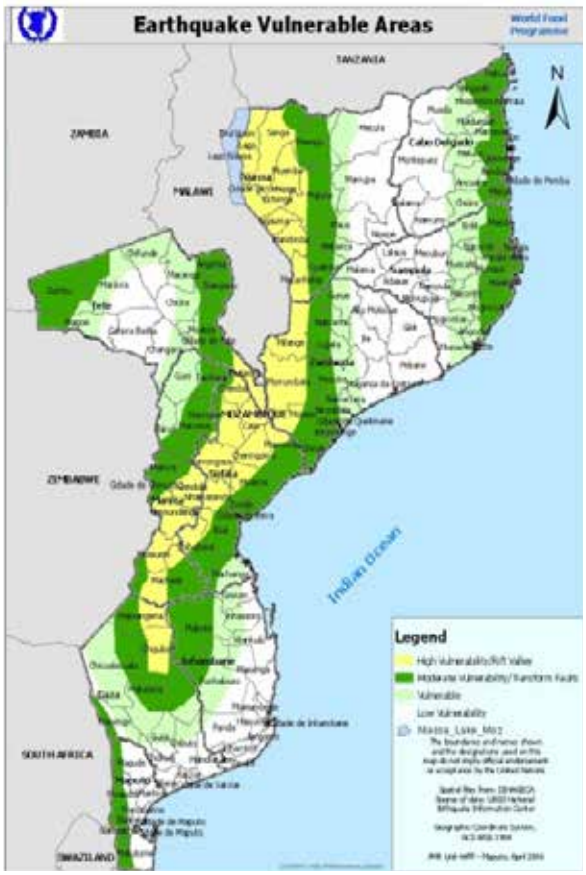
As a result, vulnerable communities may experience reduced access to water, outbreak of communicable diseases, hunger and eventually malnutrition.

Table 3: **Main drought events since 1980**

Year	Event
2010	60 districts and 350,000 in need of food assistance in the southern and central regions
2008	60,000 people requiring food assistance in the southern and central regions
2007	520,000 requiring food assistance in the southern and central regions
2004-2005	600,000 people in need of food assistance in the southern and central regions
2002-2003	600,000 people requiring food in the southern and central regions
1999	100,000 people requiring food assistance in the southern and central regions
1994-1995	1.5 million people requiring food assistance in the southern and central regions with a high shortage of drinking water and cholera outbreak
1991-1993	1.32 million people requiring food assistance countrywide with a high shortage of drinking water and cholera outbreak
1987	8,000 people requiring food assistance in the Inhambane province
1981-1984	Long dry period countrywide, combined with the civil war, claimed about 100,000 lives and put nearly 5 million people in need of food assistance
1980	60,0000 people in need of food assistance in the southern and central regions

Source: adapted from INGC, UEM and FEWS NET, 2011

Figure 6: Earthquake prone areas



Source: WFP, 2004.

Most households, already vulnerable due to other socioeconomic factors including the impact of HIV, are often too weak to cope with the cumulative shocks that droughts cause. The south of the country is particular prone to drought due to low rain patterns (400-600 mm/year), prevalent low fertility sand soils and limited water retention capacity. These limit food security from agricultural production. On average, own agricultural production provides food security for about four to five months, especially in the Gaza and Inhambane provinces. For the remainder of the year, households depend heavily on remittances from male emigrants in South Africa or Maputo, livestock rearing, natural resources and petty trading. Historically, drought has been the main killer in Mozambique. INGC (2009:3) suggests that between 1956 and 2008, drought affected about 16,500,000 people, claiming 100,200 lives. The table below shows the main droughts that have affected Mozambique since 1980.

Mozambique is situated on the southern end of the East African Rift Valley (a 50-60 km wide zone of active volcanic fault lines in eastern Africa, covering more than 3,000 km from Ethiopia in the north to the Zambezi river in the south). Although seismic activities are not frequent in this area, INGC has identified the need to consider earthquake preparedness as a priority for contingency

planning since February 2006, when an earthquake measuring 7.2 on the Richter scale struck central Mozambique. The earthquake occurred 220 km south-west of Beira, 235 km south of Chimoio and 530 km north of Maputo, injuring 27people and damaging infrastructure (health centres, schools and houses) in the Espungabera, Beira and Chimoio areas.

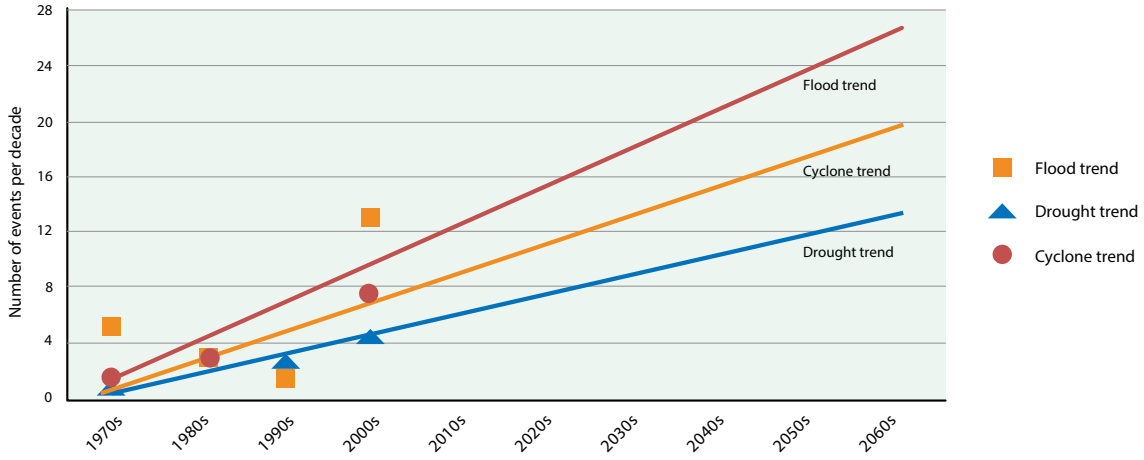
Figure 6 above shows earthquake prone areas along the Rift Valley in Mozambique. To monitor earthquakes, Mozambique has five seismographic stations in Nampula, Tete, Manica, Lichinga and Changalane. The first three stations have lower coverage estimated at approximately 650 km of ray. Hence, precise monitoring depends heavily on external observatory stations. INGC (2009:3) refers to one earthquake that occurred between 1956 and 2008 which displaced 1,440 people and killed 4 others.

INGC (2009) modelling suggests that these main risks will most likely continue to occur and expand over the coming years (see figure 7), due largely to the impacts of climate change and national socio-economic dynamics, such as population growth and environmental degradation.

2.2 Key socioeconomic and environmental disaster impacts

Mozambique faces a key challenge in terms of documenting disaster impacts. Besides recording displaced persons and deaths and conducting a basic economic analysis of damage to infrastructure, there has been limited analysis of social and environmental impacts, partly due to the complexity of capturing these dimensions. Drought impacts, in particular, are hard to capture as drought is a slow on set hazard. Droughts are historically the main hazard in Mozambique because the majority of the population (about 70per cent) depends on rain-fed agriculture for their subsistence. Droughts in Mozambique have led to crop failure/loss, livestock mortality, food insecurity, scarcity of potable water, poor sanitation and diseases. As agriculture performance declines, there is a loss of income from this key national sector and increased expenditure on food, which forces people to take financial loans, thus increasing the risk of indebtedness. To overcome drought shocks, people tend to dispose of/sell their assets, provide cheap labour on local markets, migrate or rely on

Figure 7: Forecast frequency trend of main natural hazards



Source: INGC, 2009.

forest products such as fruits, tubes and roots. As drought expands, forest plant seeds dry and the likelihood of bush fires increases, bringing with them further negative environmental impacts such as loss of flora and fauna. All this tends to deepen poverty and environmental degradation.

Floods have been known to produce both positive and negative impacts, which vary depending on the floods' magnitude, spatial distribution/coverage, timing and duration. Floods have the potential to nourish soils and increase fertility, replenish aquifers, and bring along plankton for fish. All this tends to lead to higher crop and fish production, which attracts people to live in the flood prone areas and resist resettlement. This has been the case particularly along the Zambezi basin. On the other hand, floods and associated cyclones have caused widespread deaths, loss of assets, destruction of infrastructure, displacement and resettlement. On average, Mozambique experiences floods that cost around $240 million every 4 years and those that cost around $45 million every 3-4 years. This translates into a direct long-term fiscal liability of over $70 million annually. The total costs of water shocks between 1980 and 2003 were approximately $1.75 billion (World Bank, 2010). It is estimated that between 1981 and 2004, Mozambique's GDP growth was reduced by an average of 5.5per cent each time a major water shock occurred. This translates into an average 1per cent of GDP lost every year due to the impacts of water shocks. If no measures are taken, the future costs to the national economy will be much higher. Assuming the country's GDP grows at an annual rate of 5per cent, by 2030 the total economic costs due to floods and droughts will reach about $3 billion (World Bank, 2005).

3. Review of main past and ongoing disaster risk reduction interventions

Disasters have been part of Mozambique's history since the pre-colonial period. Droughts, flooding and epidemics were all trigger factors and shaped the appearance, disintegration or disappearance of kingdoms in the pre-colonial era (Newitt, 1995: 32-33; Serra, 2000:88). During the colonial period, disasters triggered by nature and human intervention continued to hit the country on different scales, and shaped, and reshaped many investments. Continued droughts in the south were, for example, a key factor in the establishment, under the colonial administration, of the Chokwe irrigation scheme in 1960s. In addition, recurrent flooding along the Zambezi led to the transfer of the Sena Sugar company to Marromeu and Luabo along the Zambezi delta from Mopeia and Caia regions in the 1930s.

3.1 Establishment of institutional and strategic DRR frameworks

3.1.1 Establishment of the Inter-Provincial Commission for Natural Disasters and Communal Villages

Mozambique became independent in 1975. It established its first formal commitment and planned attempt to manage disaster in 1978. Due to heavy floods in the Limpopo basin in 1977 and in the Zambezi delta in 1978, that same year, the Government set up a commission to mobilize and coordinate relief called the Inter-Provincial Commission for Natural Disasters and Communal Villages (Commissão Inter-provincial das Calamidades Naturais e Aldeias Comunais**).** As the name suggests, this commission was not only involved in relief mobilization, but also had a political mandate to mobilize and organize people, especially the flood victims, to live in communal villages. This was a new development framework, established in 1977 at the third Frelimo congress that took place in Maputo. Aid was distributed selectively to people willing to move to communal villages. According to Coelho (2001:7), the first 26 communal villages were established in Gaza province following the 1977 floods. In 1978, many other communal villages were set up after the floods that occurred in the Zambezi delta. People still refer to these floods in terms of the communal villages, i.e., "***madzi a maldeia***" (water villages).

3.1.2 Establishment of the Coordinating Council for Natural Disaster Prevention and Mitigation

Failure to mobilize enough external and internal support to achieve this political objective led to the replacement of the Inter-Provincial Commission for Natural Disasters and Communal Villages in 1980 with the Coordinating Council for Natural Disaster Prevention and Mitigation (Conselho Coordenador de Prevenção e Combate as Calamidades Naturais –CCPCCN). This was a political structure whose operational/technical instrument was the Department for Natural Disaster Prevention and Mitigation (DPCCN). The two structures were heavily involved in mobilizing and distributing aid during the civil war, with the backing of external actors. In 1983, the United States pressured the Mozambican Government into accepting the Cooperative for Assistance and Relief Everywhere (CARE) to work with DPCCN in providing technical assistance and handling the financial

aspects of disaster-related projects. This was one of the conditions that Mozambique had to accept in order to access US aid. In 1984, a Logistic Support Unit, which CARE managed, was created within DPCCN, and DPCCN became mainly an aid delivery unit depending on the Unit. USAID, SIDA, NORAD, and ODA financed the Unit. This reactive structure was operational until the end of the civil war in 1992 and the post-conflict resettlement by 1995.

3.1.3 Establishment of the National Institute for Disaster Management and enabling policy frameworks

DRR changed from a reactive to a preventive disaster management system in 1999. That year, the Government approved different frameworks that included the first National Policy for Disaster Management, the first National Action Plan for Disaster Management and replaced DPCCN with the existing National Institute for Disaster Management (INGC). The establishment of these new institutions, including the replacement of DPCCN with INGC, was intended to create more flexible and proactive, rather than reactive disaster management structures. The slogan "prevention is better than cure" (***valemaisprevenirqueremediar***) was stamped on every INGC car and became part of every newspaper. This was particularly seen in 2006, when the first (and currently in use) master plan for disaster risk reduction was approved and a new INGC director, Mr. Paulo Zucula, took office.

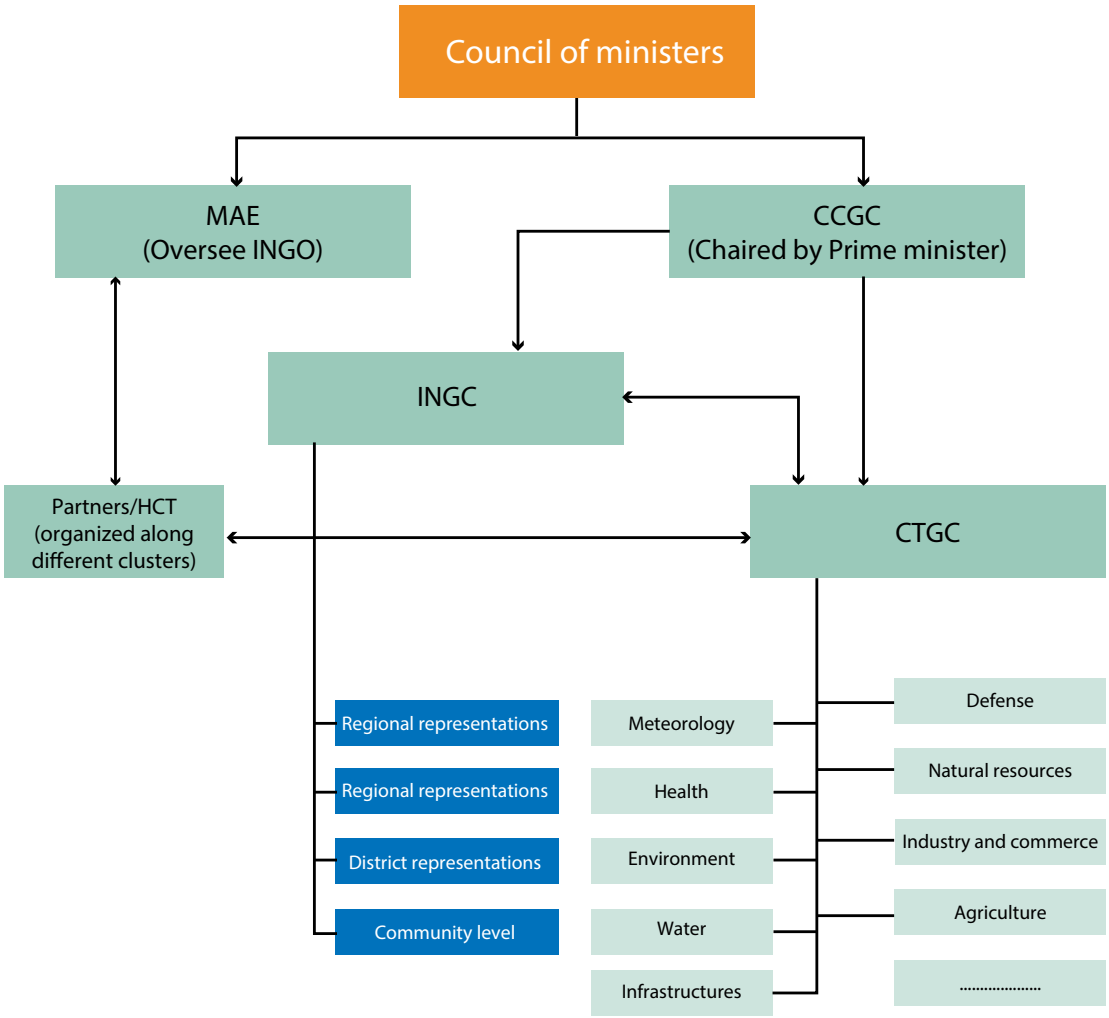
National policy recognized the need to involve different actors in DRR and the need for local actors to play an active role. Chapter II of the National Policy for Disaster Management states that the affected communities should play a crucial role in planning and implementing activities related to disaster management. The action plan defines structures and responsibilities from central/national level down to community level. At central level, the Council of Ministers (chaired by the President) oversees disaster management. The Coordinating Council for Disaster Management (CCGC) backs the Council of Ministers in its decision-making role. CCGC is an inter-ministerial forum comprising about 15 ministers and is chaired by the Prime Minister.

INGC is an autonomous institution under the Ministry of State Administration and has representations in all the provinces. Its key responsibility is to oversee disaster management in Mozambique, from policy and strategy formulation down to coordination of all DRR actions. It implements or coordinates the political decisions of CCGC and runs all day-to-day matters relating to disasters.

INGC receives technical support from the Disaster Management Technical Council (CTGC), composed of representatives of the different ministries that make up CCGC. The CTGC also has representatives of NGOs, the private sector and civil society organizations. Under the leadership of INGC, the CTGC meets ordinarily four times a year and provides information and advice to CCGC leaders, so that they make sound and timely decisions. The provinces have similar structures in the form of the Provincial Technical Council for Disaster Management (Conselho Tecnico Provincial – CTP), while districts have District Technical Council (Conselhos Tecnicos Distritais – CTD). The technical councils work as DRR platforms. They are the only institution that brings together state, NGO/CSO and private sector actors to discuss matters related to DRR.

The technical councils have also been very influential in the design and implementation of contingency plans. These, presented in section 5 as one of the good DRR practices developed in Mozambique, are plans developed by the technical councils that allow required human, material and financial resources to be pre-positioned in a disaster prone area before a disaster strikes. This preparedness tool has been very powerful in reducing the number of people affected and the death toll, as well as in reducing economic losses.

Figure 8: DRR management structure in Mozambique



Source: Adapted from INGC 2006.

At community level, the action plan requires INGC to train brigades to disseminate alerts and organize humanitarian operations if disaster hazards strike their communities. This is carried out through the Local Disaster Risk Management Committees (CLGRC). After the 2000 great flood, the Mozambican Government started creating local disaster risk reduction committees (Comités Locais de Gestão de Riscos de Calamidades – CLGRC). The Government did so through INGC, in partnership with different stakeholders such as the German Association for Technical Cooperation (GIZ) and the Mozambican Red Cross. The first local committee was created in 2001 in Buzi district and ever since, such committees have been promoted and mushroomed countrywide. There are now about 855 local committees throughout the country[1]. CLGRC are discussed further in section 5 as one of good DRR practices developed in Mozambique. They have also been influential in reducing the number of people affected and the death toll from disasters. Figure 8 summarizes the existing disaster management structure in Mozambique.

3.1.4 Establishment of the Mozambican DRR Master Plan

The Mozambican DRR Master Plan (Plano Director de Gestao de Calamidades), approved in 2006 for 10 years, is the key DRR framework in Mozambique (INGC, 2006). Its main objective is to reduce

1 Interview with INGC.

human and asset loss due to disaster, by focusing on vulnerability reduction and disaster prevention and mitigation. The Plan's activities aim to:

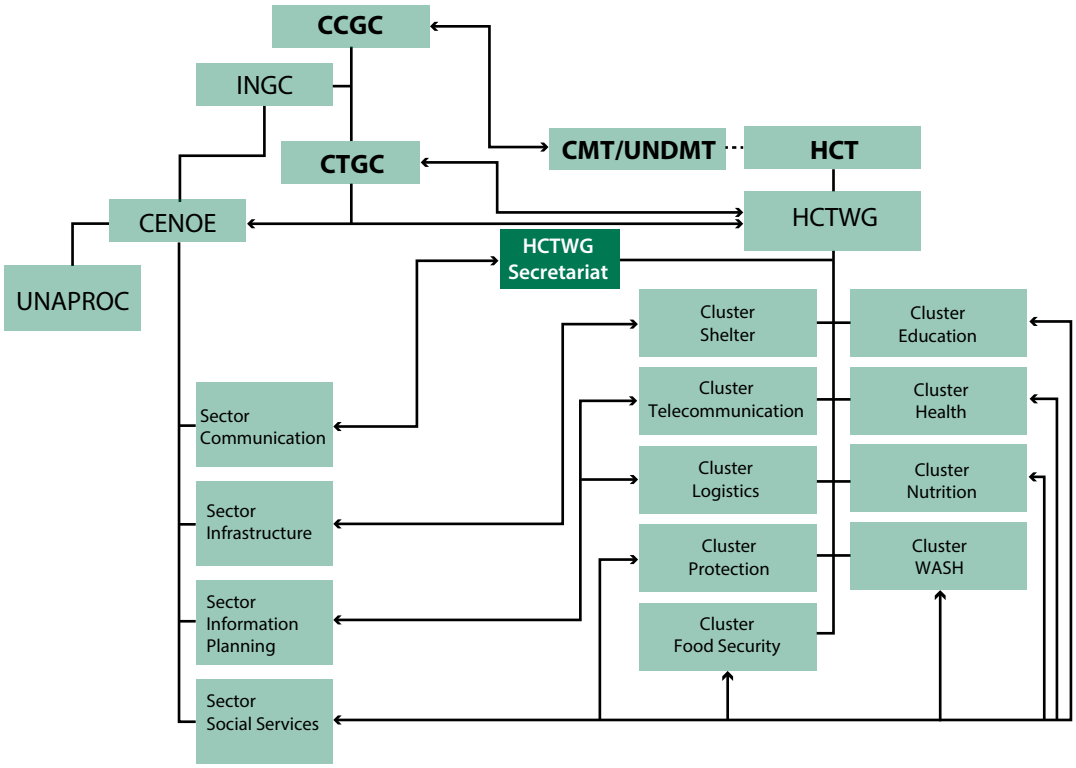
i) Reduce vulnerability to slow onset disasters (drought)
ii) Reduce vulnerability to rapid onset disasters (floods, cyclones and earthquakes)
iii) Prevent and mitigate:
   - preparedness
   - search and rescue
   - early recovery.

In order to achieve the goals above, INGC structures established the following directorates:

- The Directorate for Prevention and Mitigation
- The Directorate for the Promotion of Development in Arid and Semi-arid Zones for Drought Risk Reduction
- The Directorate for the Coordination of Resettlement and Reconstruction
- The National Operative Centre of Emergency (CENOE) – replicated in 3 regions (south, centre and north), which prepares for and coordinates emergency response
- The National Unit for Civil Protection – for search and rescue operations.

This structure allows the Government to intervene coherently and in concert with its partners because each directorate is responsible for a particular DRR component, as the names of the directorates themselves suggest. In case of emergency requiring national and international coordinated responses, the Government and international actors share responsibilities. They do so through the United Nations Disaster Management Team, the Humanitarian Country Team and the Humanitarian Country Team Working Group (see figure 9).

Figure 9: Interface of government and international actors in emergency response



Source: INGC 2006.

For the past five years, INGC has been working to reduce vulnerability and increase capacity by linking DRR to climate change. In 2009, The Institute produced a comprehensive study on the impacts of climate change on disaster risks in Mozambique. On the basis of the study's conclusions, INGC outlined nine key areas of DRR action in the context of climate change:

i) Early warning and preparedness at different scales
ii) Coastal protection against 100-year return events
iii) Preparing cities
iv) Building resilience with the private sector
v) Water: doing more with less
vi) Food: meeting demands
vii) Preparing people (human development)
viii) Dealing with extremes (focus on oceans)
ix) Development of a clear DRR strategy under climate change.

Different actions have been taking place in line with the DRR Master Plan or the climate change study outlined above to reduce vulnerability and increase capacity. For example, in the drought prone arid and semi-arid areas, INGC, in partnership with other governmental and non-governmental organizations, has been promoting new technologies. This has been conducted through centres for dissemination of technologies for arid and semi-arid regions (CERUMs), discussed further in section 5, as one of the good DRR practices in Mozambique. In flood prone areas, INGC and partners have been, among other actors, resettling people from the highly flood risk areas to new areas. They have also been strengthening the early warning system. They use the CLGRC to help warning and search and rescue operations.

Besides INGC, two other governmental institutions have been playing a critical role in DRR in Mozambique. These are the Ministry of the Coordination of Environmental Affairs (MICOA) and the Ministry of Planning and Development (MPD). MICOA is the lead institution on climate change and has been very influential in mainstreaming DRR and CC. Amongst other actions that the National Adaptation Action Plan (NAPA) undertook in 2007, were DRR measures for example to strengthen early warning systems and farmers' capacity to deal with recurring disasters. In 2012, NAPA designed the National Strategy on Climate Change (ENAMMC), where DRR is the top strategic objective. The MPD has been the key actor in designing frameworks which allow DRR to be integrated into planning and development. It successfully managed to integrate disaster management into the national budgeting system and has been systematically addressing DRR and climate change in different national development plans it produces or recommends. This is discussed further in section 5 as one of the good DRR practices in Mozambique. The following section presents some large scale DRR and climate change actions. Annex 2 of this report is a summary table of additional DRR and climate change actions based on interviews.

3.2 DRR programmes and projects

a) The Pilot Programme for Climate Change (PPCR) is one of three programmes under the Strategic Climate Fund (SCF) of the Climate Investment Fund. The Programme involves 20 countries including Mozambique. Its overall objective is to pilot projects that demonstrate ways of integrating climate risk and resilience into core development planning, while complementing other ongoing development activities in the countries concerned. Mozambique's Strategic Program for Climate Resilience (SPCR) gives priority to investments to be financed by the PPCR, with a budget of about $102 million. The funding, approved in June 2011, is being used to integrate climate resilience into mainstream development

investment in agriculture, natural resources management (including water), coastal infrastructure development, roads, and private sector investment. In total, 8 projects have been approved:

Project 1: Introducing climate resilience into the design and management of Mozambique's unpaved roads
Project 2: Coastal cities and climate change
Project 3: Climate resilient water-enabled growth, transforming hydro-meteorological services
Project 4: Sustainable land and water resources management
Project 5: Enhancing climate resilience: agricultural production and food security
Project 6: Developing climate resilience in the agricultural and peri-urban water sectors through provision of credit lines from Mozambican banks
Project 7: Developing community climate resilience through private sector engagement in forest management, sustainable timber harvesting and/or tourism
Project 8: Complementary project: climate change policy lending: development policy operations (DPO)/programme management and technical assistance

Programme achievements: PPCR funding has only recently started (from 2012) to be channelled to Mozambique. Initial funds have been used for studies and to define detailed specific actions around each of the projects. Hence, it is still too early to present achievements in terms of DRR.

b) Environment mainstreaming and adaptation to climate change: funded by the Spanish MDG Achievement Fund (about $7 million), this Programme was led by the FAO with contributions from other United Nations agencies under the United Nations Joint Programme. Implemented from 2008-2011, it focused geographically on the Limpopo region of south Mozambique. It sought primarily to mainstream environment and climate-change policies, and to enhance the adaptive capacity of communities in the Limpopo region (with emphasis on Chicualacuala District). The programme had two components with the following results:

Component 1: Environment and Climate Change Mainstreaming
Component 2: Adaptation to Climate Change

The project's main achievements included increased resilience in drought prone areas through the diversification of sources of livelihood; introduction of drought tolerant crops; introduction of water harvesting and better water management techniques; better natural resources management practices; introduction of DRR in local planning and, capacity-building of DRR at national and local levels and adaptation to climate change.

c) The Africa Adaptation Programme: this Programme was launched in 2008 by UNDP in partnership with the United Nations Industrial Development Organization, the United Nations Children's Fund and the World Food Programme (WFP) and with $92.1 million support from the Japanese Government. The Africa Adaptation Programme was established under the Japan-UNDP Joint Framework for Building Partnership to Address Climate Change in Africa. The Framework was founded at the Fourth Tokyo International Conference on African Development in May 2008. The Programme was implemented in 20 African countries and focuses on strengthening five capacities that the Programme considers to be crucial to designing and implementing a resilient development agenda:

- Enhance data and information management
- Strengthen institutions and leadership
- Enhance analysis and implementation of DRR and climate change actions
- Enhance knowledge management
- Innovative finance

Project achievements included the furnishing of INGC offices with key IT equipment and training on data collection and analysis of DRR; co-funding of studies by INGC on DRR and climate change; training government planners on how to integrate climate change and DRR into district planning and subsequent integration of DRR activities into plans; training of staff from meteorological services to enhance early warning systems; training of key staff from INGC, MICOA and MPD on climate change, DRR and planning. This helped these institutions to better perform their DRR duties.

d) Livelihood Protection and Promotion Programme: funded by the Dutch, Canadian and US Governments, this Programme targeted the most vulnerable people in 20 districts of seven southern and central provinces. The Programme was led by WFP and implemented in partnership with INGC, the Ministry of Agriculture, the Ministry for Women and Social Affairs and the Ministry of Health from 2008 to 2011. With a requested budget of about $110 million, of which less than half was secured, the Programme addressed the impact of natural, social and health risks through the integration of food assistance in four areas:

i) Disaster preparedness and response;
ii) Livelihood protection and promotion;
iii) Social assistance; and
iv) Health and nutrition.

The Programme's main achievement is inclusion of the most vulnerable people in the mainstream labour market by providing them with cash for work. This helped them, amongst others, to purchase additional and diversified food, to buy inputs for agricultural production. It also helped them to adopt new seeds/crops and farming practices, which led to better agricultural yields, which in turn led to better nutrition and market integration.

e) Strengthening local risk management and mainstreaming DRR in Mozambique: budgeted at $2, 75 million, this Programme was designed by UNDP Mozambique for the 2008-2009 period. This was UNDP Mozambique's contribution to the joint programme for Strengthening Disaster Risk Reduction and Emergency Preparedness in Mozambique, which the United Nations country team approved under the "delivering as one" United Nations Development Assistance Framework (UNDAF) for Mozambique in 2007-2009.

Key achievements included the setting up, training and furnishing of local committees for disaster risk reduction; the furnishing of selected INGC offices (with some office equipment and means of transport); training of staff from INGC and from the Government on DRR; awareness raising and training on integration of DRR into local plans; evacuation drills; and a draft law on disaster submitted to the Council of Ministers.

f) Floodplain management in the Zambezi valley: the Enhancing Sustainable Livelihoods Resilience project was budgeted at GBP 1.25 million and implemented by Save the Children during the 2009-2011 period. It focused on 4 districts (Caia, Mopeia, Morrumbala and Tambara) along the Zambezi valley. The project aimed at minimizing exposure to risk and enhancing resilience of livelihoods to recurrent weather hazards along the Zambezi valley.

The project's main achievements included livelihood diversification; establishment and furnishing of local committees for disaster risk reduction; establishment of irrigated agriculture in some communities; provision of seeds and agricultural implements to vulnerable households through a voucher system; and establishment of a local small-scale rotational credit and savings system to strengthen business capabilities and market integration.

g). Adaptation in the coastal zones (2012-2015): budgeted at about $1million, MICOA and UNDP are implementing this project in partnership with key line ministers (i.e., Agriculture and INGC) with two main objectives:

i) To strengthen institutions to develop and improve climate change policies, strategies and plans, environmental management, and disaster risk reduction; and
ii) To strengthen integrated information systems for decision-making on disaster risk reduction, climate change and environmental management. The project covers three coastal cities in Mozambique.

4. Mainstreaming and implementation of DRR within national plans and strategies

4.1 Overview of key mainstreaming frameworks

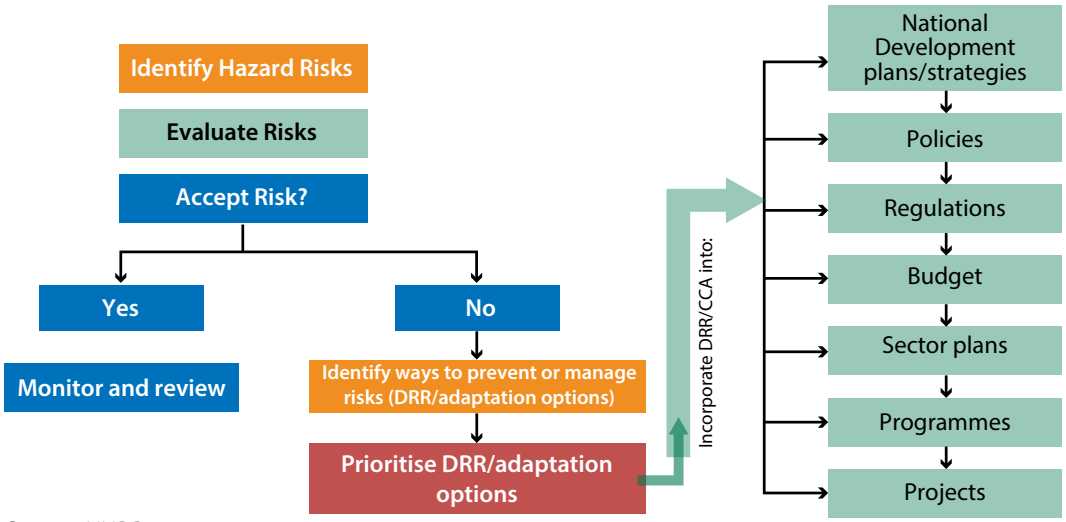
Mainstreaming DRR into national plans and strategies is the core objective of the Africa Region Disaster Risk Reduction Strategy and its programme of action (see page 11-12 of this report). This is also the core objective of the Hyogo Framework of Action (HFA 2005-2015), developed along the lines of the Africa Region Disaster Risk Reduction Strategy.

"Mainstreaming" DRR into development means "to consider and address 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" (Provention, 2007).

The lack of disaster risk considerations in the development processes, including rehabilitation efforts following major disasters, leads to investments in "constructing and reconstructing risks", which perpetuate the conditions for unsustainable human development. As a result, achievement of poverty alleviation, good governance, and other related goals becomes more difficult.

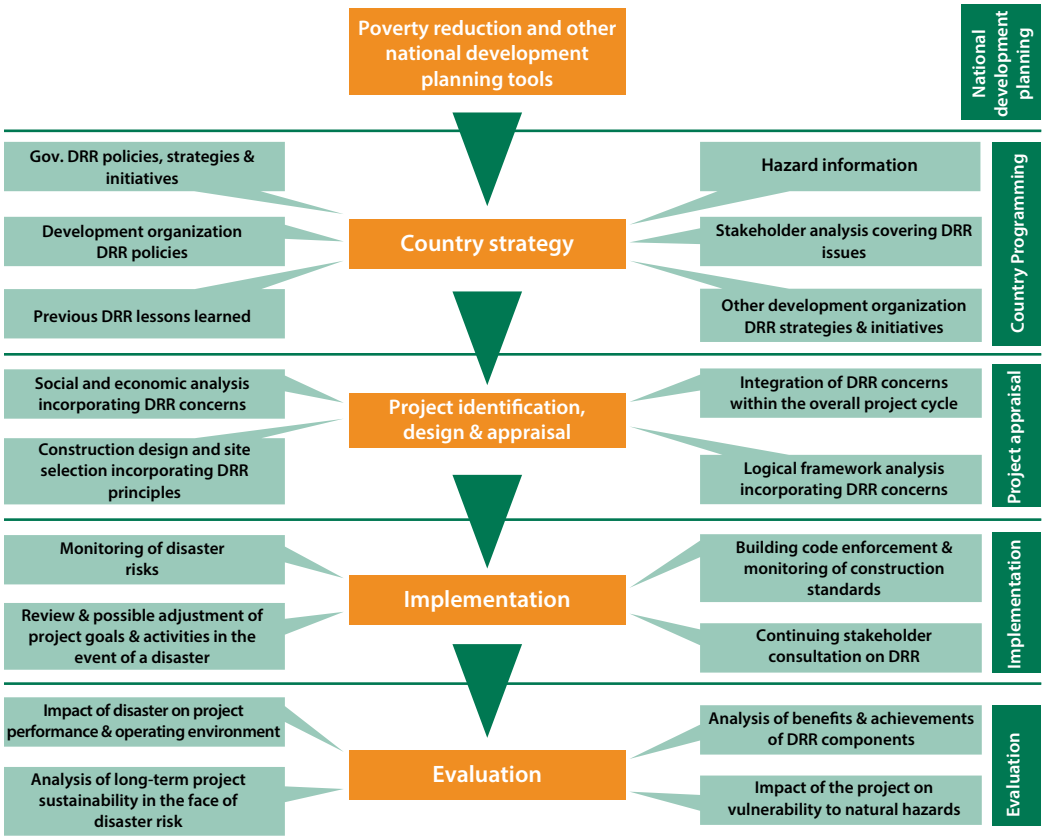
Different tools have so far been used to mainstream DRR into the development process. For example, UNDP has been promoting the Madrid Framework (Mainstreaming Adaptation and Disaster Reduction into Development) over the past five years. The International Federation of Red Cross and Red Crescent Societies and Provention have also been providing guidance for the integration of DRR into development planning since 2007. This report considers the UNDP framework, which firstly assesses a country's or region's hazard risks and then evaluates them. The risks that society cannot withstand have to be prioritized and incorporated into national development plans/strategies and additional regulatory frames. Figure 10 summarizes the UNDP approach used in the assessment.

Figure 10: NDP mainstreaming framework



Source: UNDP, 2013

Figure 11: Provention mainstreaming framework



Source: Provention, 2007.

The Provention approach addresses mainstreaming in five areas:

i) National development planning;
ii) Country programming;
iii) Project appraisal;
iv) Project implementation; and
v) Project evaluation (see figure 11).

4.2 Mainstreaming of DRR in different frameworks

Mozambique is one of the few African countries that have recorded progress in mainstreaming DRR into national plans and strategies across sectors and from the national to the local[2] level. Interviews with different ministries and at national and district level (in Guijá district) substantiate this claim. In Mozambique, DRR is considered a cross-cutting issue. Hence, all ministries are supposed to take DRR into consideration in their planning. INGC helps other institutions in this endeavour and proposes programmes for DRR, such as the ones outlined in the National Action Plan for Poverty Reduction (see section below). In the sections that follow, we outline key DRR mainstreaming that took place in Mozambique, while Annex 3 provides an extensive overview of policies and strategies related to DRR in Mozambique.

4.2.1 Incorporation of DRR in the Government's five-year programme

The Government's five-year programme is the umbrella under which subsequent programmes and strategies at national, provincial or district levels are grouped. It also guides sectoral strategies and is the reference document for donors and NGOs that provide support to development

2 Interviews with INGC, MICOA and MPD.

in Mozambique. Dealing with the impacts of disaster on national development, the five-year programme (PQG 2010-2014) outlines, on pages 102-104, key outputs expected bythe end of the programme. The programme authorizes INGC to develop strategic actions to achieve the outputs. The programme is mainly expected to reduce the number of people affected and killed, and economic losses from disasters.

4.2.2 Integration of DRR in the Poverty Reduction Action Plan

The Poverty Reduction Action Plan (PARP) is a policy document that specifically targets poverty reduction in Mozambique. The 2011-2014 PARP has the overall objective of reducing the level of poverty from 54.7per cent in 2008/2009 to 42per cent by 2014. The Plan is implemented through programmes, and the Government has defined 88 programmes, to be implemented through different ministries. The PARP (its 88 programmes) absorbs about 82per cent of the annual budget. Realizing that poverty could be reduced only if DRR is an integral part of the annual planning cycles, two of the 88 programmes have specifically been designed for DRR (namely the drought management programme, and the flood, cyclone and earthquake management programme). Some of the actions referred to in the document are to:

- Map disaster risks across the country in order to define specific actions;
- Promote strategies to reduce de-forestation, wild fires, environmental degradation and, increase forestation;
- Promote livelihood diversification in disaster prone areas;
- Promote efficient water use in agriculture and other sectors, especially in drought prone areas;
- Create, train and equip local committees for disaster risk reduction in disaster prone areas;
- Operationalize natural resources management committees.

4.2.3 Integration of DRR in the ENAMMC

The National Strategy for Climate Change Adaptation and Mitigation (Estratégia Nacional de Adaptação e Mitigação `as Mudanças Climáticas– ENAMMC 2013-2025), approved in November 2012, is developed around three pillars. These are: (i) adaptation and reduction of climate risks, (ii) mitigation and low carbon development and, (iii) cross-cutting issues. DRR is considered an integral part of the first pillar. This pillar has 13 strategic actions, which together are expected to lead to adaptation and DRR (MICOA, 2012):

i) Strengthen early warning systems;
ii) Improve national preparedness and response to climate risks (i.e., floods, droughts and cyclones);
iii) Increase national capacity for managing water resources;
iv) Increase national capacity for water harvesting, storage and distribution;
v) Increase agriculture and livestock resilience;
vi) Increase fishery resilience;
vii) Increase food security and nutrition;
viii) Increase the adaptive capacity of the most vulnerable groups;
ix) Strengthen health services to deal with climate change and disaster risks;
x) Protect biodiversity;
xi) Protect and expand forest areas;
xii) Promote resilient settlement;
xiii) Promote resilient coastal and tourist areas.

4.2.4 Integration of DRR in ministries and other institutions

Key ministries have focal points that advise these institutions on DRR issues. The focal points are all part of the CTGC. According to INGC (2012), institutions such as the Ministries of Agriculture, Health, Social Protection, Public Infrastructure, Energy, Environmental Affairs, and Public Administration and meteorological, water and sanitation services have all embedded DRR objectives in their

development strategies. All provinces, municipalities and districts have embedded DRR objectives in their development plans. 855 communities countrywide have local DRR committees. The Government approved a proposed law on DRR in December 2012 that is pending the Parliament's approval.

4.2.5 Integration of DRR in UNDAF

The United Nations Assistance Development Framework for Mozambique (UNDAF 2012-2015) has been developed with the overall objective to reduce poverty and disparities in order to improve the wellbeing of the most vulnerable people in Mozambique. It aims at ensuring that the most disadvantaged families, groups and communities progressively realize their rights to development, protection, governance and participation. UNDAF was designed around the economic, social and governance areas, and defined eight key outcomes:

- Vulnerable groups (with a particular focus on women): to ensure production and productivity in the primary sectors such as agriculture in order to increase food security;
- Access of vulnerable groups to decent employment and opportunities for improved livelihoods;
- Sustainable and effective management of natural resources and disaster risk reduction that benefits everyone in Mozambique, particularly the most vulnerable;
- Strengthen the capacities of public institutions to provide quality and essential social services (in water, sanitation and built environment; social protection; education; health and nutrition and HIV/AIDS) for vulnerable groups;
- Empower right holders to ask for access to and use equitably delivered social services;
- Strengthen democratic governance systems and processes to guarantee equity, the rule of law and respect of human rights at all levels;
- Encourage people to participate in shaping and monitoring a transparent and equitable national development agenda;
- Government and civil society to provide decentralized coordinated, equitable and integrated services.

The eight outcomes of UNDAF 2012-2015 in the economic, social and governance areas are being implemented through the coordinated delivery of 49 outputs, which all involve two or more of the 14 United Nations agencies in Mozambique. The total estimated financial resources required for implementing the 2012-2015 UNDAF action plan is $722 million. Some 35 per cent of the $249 million budget comprises regular resources. The remaining $473 million will have to be mobilized. Of the three UNDAF focus areas, the social aspect takes up more than half of the UNDAF action plan budget. The economic area is the second largest, and takes up 31 per cent of the overall budget, while governance takes up 13 per cent(UN, 2012:30).

DRR is specifically embedded under the third outcome, i.e., "Sustainable and effective management of natural resources and disaster risk reduction that benefits everyone in Mozambique, particularly the most vulnerable". This outcome is budgeted at $105,353,500. The United Nations has been supporting this programme at national level in terms of the policy framework on the use of natural resources, operationalization of integrated regulations on disaster risk reduction and adaptation to climate change, and implementation of information management systems for early warning. Building on the multi-disciplinary set-up of its agencies, the United Nations has also been promoting an integrated approach to information management systems to address emergen-

cy as well as short- and long-term information needs, and respond to the growing demand for in-depth analysis of structural and emerging factors of climate change. At decentralized levels, United Nations agencies invest in proactive risk reduction measures, fostering prevention, risk mitigation and early recovery efforts. In line with the National Master Plan for Disaster Management, the United Nations supports capacity development of the national and provincial Disaster Management Office (INGC), and the disaster management committees in risk analysis and mapping, early warning for disaster preparedness and emergency management of national disaster management structures. Priority is given to those communities that are most exposed to the risk of natural disasters and the impact of climate change (United Nations, 2012:15).

4.3 DRR implementation strategy and stakeholders

In Mozambique planning, implementation, monitoring and evaluation of government strategies is sectoral and cross-sectoral. On the basis of national plans and strategies such as the PQG and PARP, each sector/ministry has to make sure that DRR is integrated in its actions at all levels, from national to district and community levels. Local committees for disaster reduction (CLGRC) and local leadership are required to participate in and monitor DRR actions taking place at community level.

At the district level, government services such as agriculture, health, infrastructures are supposed to integrate DRR in their actions. This is monitored by each sector's own monitoring system, district administration (administratação do districto) and district consultative councils (conselhos consultivos distritais). At provincial level, provincial directorates of agriculture, health, infrastructures, education, tourism, among others, are supposed to integrate DRR in their actions. This is monitored by each sector's own monitoring system and by the Ministry of Planning and Development at provincial level through the Provincial Directorate of Planning and Finance-DPPF). At national level, the Ministries of Agriculture, Health, Infrastructure, Education, and Tourism, among others, are supposed to integrate DRR in their plans and actions. This is monitored and evaluated by each sector's own monitoring system and by the Ministry of Planning and Development at national level. INGC at different levels provides technical support to the sectors in order to help them integrate DRR in their actions.

The Ministry of Planning and Development (MPD) aggregates and provides a cross-sectoral overview of plans and achievements. For impact assessment, the MPD uses sectoral information, its own monitoring system and data from external sources, such as INGC and independent studies by university and research centres.

Stakeholders such as the United Nations system and NGOs play a crucial role in mobilizing resources and strengthening government capacity to implement DRR actions. As shown in the different DRR programmes and projects presented in section 3.2 and the UNDAF framework, strengthening national DRR capacity is a key and common cross-cutting goal. Every United Nations or NGO project and programme addressing DRR should be aligned with the national policies and strategies, and work jointly with government institutions mandated to address the issues under consideration.

The Government and donors supporting the Government's budget have agreed on and set up a Performance Assessment Framework (PAF) to assess the extent to which their funding is impacting on poverty reduction and on national development. The PAF established 35 performance indicators and one of them (indicator 6) is on adaptation to climate change and DRR.

5. Good practices and lessons learned

DRR mainstreaming and implementation allowed us to identify the following good practices. We chose them because they match one or more of the criteria for good practices presented in the methodology section. The criteria include:

i) Stakeholder ownership of practices/ measures/actions;
ii) Adequate backing by a sound statistical and information basis;
iii) Stakeholder participation and involvement including in non-traditional DRR interest groups;
iv) Effective institutional DRR arrangements;
v) Consideration of the social, economic and environmental dimension;
vi) Capacity to move from policy/strategy and plans to tangible action on the ground;
vii) Effectiveness and successfulness of practice in DRR practice and enhancement of resilience;
viii) Action/practice replicability, where applicable; and
ix) Sustainability of proposed/adopted measure/ practice.

The table below summarizes the good practices identified. It provides:

i) a short description;
ii) tools used;
iii) key achievements and;
iv) key challenges. Additional details are provided on selected good practices.

5.1 Overview of good practices

Good Practice	Practice Overview	Tools Used	Key Achievements	Key Challenges
DRR governance structure	DRR is governed through a DRR council (CCGC) under the Prime Minister with representatives of all ministers	CCGC meets ordinarily twice a year and extraordinarily when necessary to discuss and decide on DRR plans and reports	The structure enabled the mainstreaming of DRR across different ministries and, to some extent, a collective ownership of the decisions made	CCGC depends on the approval of the Council of Ministers to implement its deliberations. CCGC has no say in the final decision on DRR
DRR Master Plan	The master plan provides the country's DRR strategic interventions for the period 2006-2016. The plan was aligned with the HFA 2005-2015	The plan was produced through broad consultation based on workshops, focus group discussions, individual meetings and high-level inter-ministerial presentations and discussions by INGC	Based on the master plan, INGC was able to set up emergency operative centres (CENOEs), technology centres (CERUMs) and to foster resettlement whenever required. All this reduced the number of people affected by disasters	The Master Plan focused too much on natural hazards and rural areas. It also lacked a clear link with climate change, environmental protection and gender issues. Documentation of what different stakeholders (besides the Government) are doing in DRR along or beside the Master Plan is limited, which in turn limits cross-learning and improvement of practices

Good Practice	Practice Overview	Tools Used	Key Achievements	Key Challenges
Integration of DRR and CCA in planning and budgeting	DRR and CCA are being integrated into district planning and budgeting systems in the eight key sectors of agriculture, health, water, social protection, roads, the environment, meteorology and energy	Each minister has a DRR and CCA focal point, which advises the minister on DRR and CCA issues. INGC and MICOA provide technical back up to the focal point. A technical team is responsible for planning at district level. INGC trains on DRR and planning	There has been increased awareness of DRR and CCA in districts and in ministries. In addition, DRR is starting to be seen as relevant for the sector's performance	Focal points and members of the district technical team are overburdened with different cross-cutting issues and their own terms of reference. There is a high staff turnover and, limited knowledge of DRR and CCA by the focal points and other staff within the ministries. Resources and M&E frameworks to assess the extent to which DRR and CCA projects are being implemented are also limited
DRR interlinked with CCA	In November 2012, the Government approved the national strategy on adaptation to and mitigation of climate change, which merges CCA and DRR	In order to merge DRR and CCA, the Government established the GIIMC (inter-institutional group for climate change), a structure that includes actors working on DRR and on CCA	DRR was recognized as an integral part of adaptation to climate change	DRR is handled by different ministries and institutions (INGC/MAE and MICOA): coordination and cooperation between the two need to be strengthened
Contingency planning	Every year, the Government at national, provincial and district levels, through INGC, prepares and approve a contingency plan, which outlines expected hazards (in the rainy season), resources available, response and coordination mechanisms	3-6 month weather information is collected at regional level (at the SARCOF), downscaled at the national level and then broadcasted to different national institutions working on DRR. On the basis of this information, INGC develops best, mid and worse (BMW) case scenarios and budgets human and financial resources required before and during the critical period. The plan is updated with time	The contingency planning helped the Government to reduce the number of people affected and to make resources available for coordinated interventions prior to disaster events	Information flow at different levels and coordination between different actors remains a critical issue Additionally, funding for contingency planning is still too limited
Community-based DRR (CBDRR)	At community level, the Government has been establishing local disaster risk reduction committees to help build local DRR capacity, especially to allow better disaster response, assuming that local communities are the first aid providers in response to disaster	INGC approaches risk communities through community meetings. Locals select 15-18 people to form a local DRR volunteers committee (CLGRC) and to lead DRR implementation in their communities. The selected people go through a short DRR training and, whenever funds are available, the committee receives a preparedness kit comprising a radio, a bicycle, rods, and warning flags, amongst others	Communities that have CBDRR tended to experience less disaster impacts compared to those that had none. And the Government has highly praised the CBDRR	The main challenges are that committee members do not have the motivation to continuously engage in DRR mainstreaming in their communities on a voluntary basis. There is a high turnover partly due to migration and a lack of incentives and information flow between the national level and communities. The committees' duties are concentrated on disaster response rather than on DRR
Centres of technology in drought prone areas (CERUMs)	CERUMs are technology centres established in arid and semi-arid districts that provide local communities with internationally and nationally tested and applied technologies for drought prone areas	The Government selects some drought prone districts, builds infrastructure (hubs) and allocates staff to develop demonstration practices, e.g., through demonstration plots for new practices. The Government also provides technologies to lead farmers and local leaders to use in their own communities or on their own farms	Local communities have adopted new technologies such as water harvesting and drought tolerant crops. This has helped reduce food insecurity and increase water availability	Settlement patterns (dispersed households) and migration in drought prone areas have made interventions very challenging

Good Practice	Practice Overview	Tools Used	Key Achievements	Key Challenges
Annual drills	Every year, the Government selects one disaster risk area and conducts a drill as a way of creating awareness and testing the national response capacity	INGC, in partnership with local communities, the CLGRC, fire fighters, the police, military forces, the Red Cross, and other humanitarian organizations, prepares and undertakes drills. The partners define one hazard and prepare a screenplay on response to an emergency related to the hazard	Communities become more aware of hazards and existing response mechanisms. The drills have also created a culture of preparedness in disaster prone areas	Preparation, commitment and coordination amongst different players involved in drills has always been a challenge
Resettlement programme	In highly flood prone areas, the Government has been undertaking resettlement programmes by removing people from these areas to reduce their exposure and vulnerability. This has been particularly the case in the Zambezi and Limpopo basins, where death due to flooding is recurrent	The Government has provided new settlement areas, built basic infrastructure such as hospitals and schools on the new sites, and provided construction materials for those willing to resettle in new areas	The number of people affected by flooding and in need of rescue aid has reduced	Other vulnerabilities other than physical ones need to be tackled as well. For example, lowlands are generally fertile and moving people from these areas means that they have to learn new skills for alternative livelihoods. Alternative livelihood sources are still limited and generally, most of the households build their homes between upper and lower lands

Source: Own construction.

5.2 Additional information on selected good practices

5.2.1 Good practice 2: approval of the DRR Master Plan

The DRR Master Plan, approved in 2006, provided the strategic vision and outline for DRR in Mozambique. The Plan provided a clear vision and monitoring and evaluation frameworks to the various DDR actors. This also showed the world the country's commitment to addressing disaster risks more coherently, leaving behind ad hoc DRR practices. This practice was chosen mainly because it provided an effective institutional arrangement for DRR actions in Mozambique.

Key lessons learned from the Master Plan

The key lesson learned from the Plan was that it was too limited. It did not address climate change or man-induced disasters such as wild fires, technological accidents and social unrest. Due to these limitations, the Plan has been reformulated, and an updated version (November 2013) is now waiting for government approval.

5.2.2 Good practice 3: DRR in planning and budgeting systems

The DRR Master Plan became operational because it was embedded into the national planning and budgeting systems. As such, DRR actions could be funded and executed across the country. This also demonstrated Mozambique's commitment to DRR to the international community. This practice was chosen mainly because it allows government actors to enhance the resilience and sustainability of DRR actions.

Key lessons learned from the integration

One of the key lessons learned is that integration can be effective only if people, across different ministries and planning levels (national, provincial and district) have a 'reasonable' understanding

of DRR and see it not as something that belongs to INGC but as something that touches upon their everyday duties. Unfortunately, according to many of the people interviewed, there is still limited understanding of DRR and people equate it to INGC and do not see it as their business. As such, although integration is written in the approved documents, real implementation by many ministries is still a challenge. Hence, for many of the people interviewed, there is a real need to disseminate and advocate for DRR both at the government and societal levels.

5.2.3 Good practice 4: DRR interlinked with CCA

The national strategy for adaptation to and mitigation of climate change outlined in section 4.2.3 brings together DRR and CCA. This is a great achievement because international discussions on how to link CCA to DRR have been taking place. By bringing these two fields together, the strategy has shown the need to address climate change and DRR as two interlinked issues. Effective implementation of the strategy will lead to adaptation to climate change in Mozambique, which means the communities concerned can reduce disasters.

Key lessons learned from interlinking DRR and CCA

The strategy is still in its inception phase. The Government, in partnership with the United Nations system, the World Bank and NGOs, is setting the strategy's M&E system and coordination and funding mechanisms. Nonetheless, the link between the two is already raising issues of mandate and coordination. INGC is mandated to oversee DRR while the CCA is under MICOA. According to the interviewees, there are different centres of leadership, capacities, visions, perceptions and planning mechanisms with regard to DRR and the CCA, and cooperation and coordination between them is not yet clear.

5.2.4 Good practice 5: contingency plans as preparedness tools

On the basis of the national disaster policy approved in 1999 (section 3.1.3), the Mozambican Government started developing contingency planning, through INGC. In contingency planning, the Government, on the basis of scientific knowledge gathered by national, regional and international meteorological and climate centres, such as the SARCOF (Southern Africa Region Climate Outlook Forum), develops its disaster response plan. The information is used to determine the regions and estimate the number of people likely to be affected by main hazards (i.e., floods, droughts and cyclones). The Government uses the information to produce three scenarios. The first scenario simulates a disaster on a low magnitude and with low impacts. The amount of resources required to respond are also downscaled. For example, scenario I of the 2012/2013 contingency plan estimated that about 307,000 people affected by a disaster would be assisted by a total amount of MTN 60-123 million (about $2-4 million). Scenario II simulates a disaster on a moderate magnitude affecting relatively more people than scenario I and requiring relatively more resources. Scenario III (the worst case scenario) simulates the highest magnitude and impacts. For example, the 2012/2013 contingency plan simulated a scenario (III) in which a total of 987,000 people would be affected by a disaster and would require assistance of MTN 101-374 million (about $3.5-12 million).

Besides this exercise, the plan outlines the actions to be carried out before, during and after the event of a disaster, and assigns responsibilities to different actors (e.g., government ministries, NGOs and the United Nations system) at national, provincial, district and local levels. The Government secures and provides on average MTN 120 million (about $4 million) for plan implementation annually. Every year before November (before the rainy sea-

son starts), the Government holds a contingency planning meeting with all relevant stakeholders on DRR in Mozambique to discuss the plan and secure the involvement of stakeholders in implementing the plan.

For a smooth and coordinated emergency response, the Government created, in 2007, national and regional emergency operative centres (CENOE). They are based in Maputo (headquarters), with three regional offices in Vilanculos (in the south), Caia (in the centre) and Nacala (in the north). The CENOE are, in essence, a structure where representatives of different governmental and non-governmental institutions converge and, under the Government's leadership, directly participate in disaster response. Additionally, the Government in 2007, created a unit for search and rescue for rapid onset disasters such as floods. The unit immediately swings into action once the Government declares a red alert. Among the key challenges that interviewed actors mentioned with regard to contingency planning and emergency response are: obtaining financial support; coordination difficulties; and lack of quality data to help make decisions before, during and after disasters. In Guijá for instance, preparedness plans are hardly allocated funds, although many humanitarian organizations immediately became involved in the aftermath of the 2013 floods.

Contingency planning was chosen as a good practice mainly for the following reasons:

i) The Government owns the practice;
ii) Stakeholders participate and are involved in the process;
iii) It has an institutional arrangement; and
iv) Moves from policy to tangible actions. Ultimately, contingency planning was chosen because it has been very influential in reducing disaster risks, such as the overall number of people that disasters affect and kill.

Key lessons learned from contingency planning

Political commitment: this was mentioned during the interviews as a key factor for effective contingency planning. The Mozambican Government has shown this commitment by providing annual financial resources and political support. People suggested that the Government should continue this political commitment and support.

Commitment and coordinated actions of all actors: a smooth implementation of contingency plans was said to depend on the commitment and coordinated actions of all actors (beyond the Government). This was regarded as a challenge to be addressed. Although people participate in the design of the contingency plans, implementation of the plan suffers from limited commitment and some actors' attempt to establish their own action plans.

Quality of information and information flow with regard to preparedness: preparedness depends on sound information and clear and effective lines of information flow. Although the quality of information on the climate has improved, the margin of error is still large and the flow of information from the sources to the end users still needs to be strengthened. Many people in disaster risk areas still receive very limited information.

Limited funding of contingency plans: implementation of contingency plans requires financial resources that the Mozambican Government is not able to fully provide on its own. Additional funding is very limited, although disaster response receives much more attention and funding.

Limited preparedness beyond rural areas and natural hazards: over the past years, the country has become a new el dorado with different multinationals prospecting for and exploiting minerals. As a result, rapid urbanization is bringing along new disaster risks, which require additional efforts in land use planning, construction codes, develop-

ment of DDR monitoring and establishment of new DDR behaviours in urban areas. Up to now, DRR and contingency planning has been mostly directed to rural areas and natural hazards, while urban areas and technological risks remained sidelined in the contingency planning.

Cultural barriers and the "wait and see" approach: contingency planning is intended to help people make sound decisions in the face of disaster risks. Nonetheless, many people in Mozambique have difficulties following recommendations from the contingency plans because of sociocultural barriers, such as group pressure, land ownership, power relations, which altogether instil in them the reactive and dangerous "wait and see" attitude.

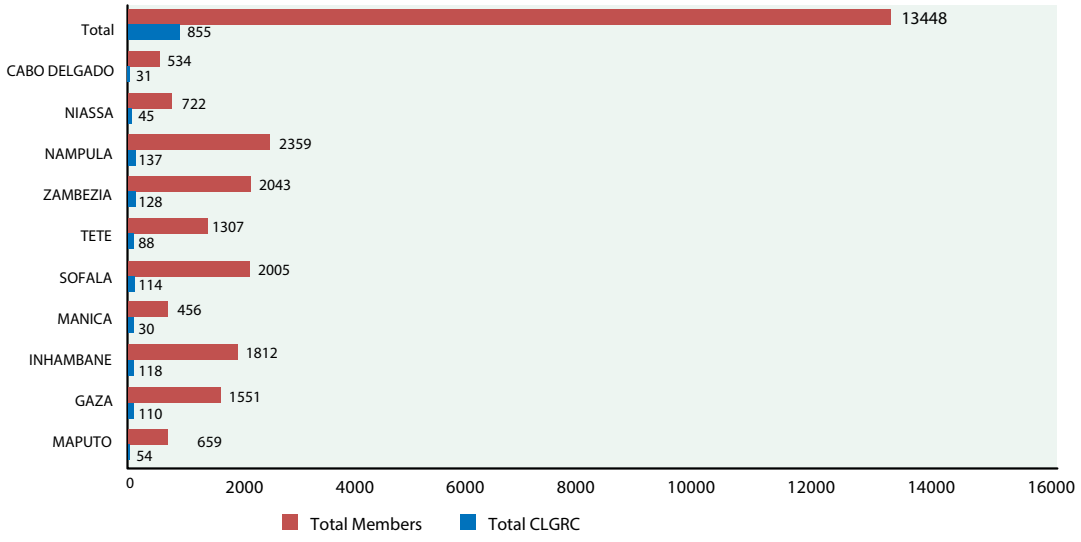
5.2.5 Good practice 6: Community based disaster risk reduction

One of the practices that has helped the Government to reduce the death toll and asset losses is the implementation of community based disaster risk reduction (CBDRR). CBDRR firstly maps highly disaster prone areas before sensitizing and organizing communities in these areas to reduce the disaster risks that they face. To do so, the Government and its partners help create local disaster risk management committees (Comités Locais de Gestão de Risco de Calamidades – CLGRC).

The committees comprise 15-18 local people, each with clear roles and responsibilities before, during and after a disaster. The committees sound an early warning, identify evacuation routes and safe places for accommodation, help in search and rescue operations and are actively involved in aid mobilization, distribution and early recovery. Under INGC's leadership they, from time to time, run drilling exercises and promote livelihood activities after emergencies. Whenever possible, the Government and its partners provide emergency preparedness kits comprising key emergency tools such as robs, machetes, a radio, a megaphone and lifesaving jackets. By 2012, there were 855 CLGRC across the country (see figure 12).

The role of the CLGRC was underlined in group discussions and interviews with key informants in Guijá. It was highlighted that long before external aid reached them, the local people, through the CLGRC, provided most of the required search, rescue and assistance.

Figure 12: Local disaster management committees



Source: Author construction based on INGC database 2012.

CBDRR was chosen as good practice for the following reasons:

i) The Government and local people own the practice;
ii) Stakeholders participate and are involved in the process (sections 3.2 and 4.2.5);
iii) It has an institutional arrangement;
iv) It moves from policy to tangible actions;
v) It has adequate backing by sound statistics;
vi) It is replicable; and
vii) Sustainable. Ultimately, contingency planning was chosen because it has been very influential in reducing disaster risks, such as the overall number of people that disasters affect and kill.

Key lessons learned from CBDRR

- ***Too focused on disaster response:*** local committees for disaster response have been an influential mechanism for disaster response. However, their actions beyond disaster response are very limited. People and disaster committee members themselves have argued that the work of local committees "finishes" after the rainy season (October-March). Hence there is a need to design and implement, using local committees, disaster prevention and mitigation actions, which precede and reduce the need for disaster response.

- ***CBDRR is mainly for flood response:*** CBDRR was initially promoted as a response to the 2000 and 2001 floods. The setup, roles and emergency preparedness kit have all been developed around flood response, and it has been quite challenging to set similar structures beyond flood areas. Because CBDRR is relevant for local DRR, it is important to provide a framework for communities outside flood risk areas.

- ***Motivation and dropping out of committee members***: the local committees are setup on a voluntary basis and are supposed to receive their main support from the communities they live in and serve. This has not been easy, and committee members look to INGC for material and financial incentives for their work. Some committee members said in group discussions that the lack of material and financial incentives are amongst the key reasons for dropping out of the committee. There are difficulties to find people to replace those who leave.

- ***Emergency preparedness kit management:*** some of the local committees have received preparedness kits. Managing the kit contents has not been easy. In some communities, people borrowed kit contents but never returned them, while in other communities, the contents where hardly used and rotted. Poor storage conditions have, in some cases, led to quick degradation of kit contents.

5.2.6 Good practice 7: CERUMs

In 2007, the Government through, Decree 52/2007 of 27 November, created the National Directorate for the Development of Arid and Semi-arid areas (DÁRIDAS) to deal specifically with drought. DARIDAS is one of INGC's directorates, tasked with leading and coordinating actions in about 28 arid and semi-arid districts (out of Mozambique's 128 districts). In order to develop the arid and semi-arid areas, the Government established Multiple Use Resource Centres (Centros de Recursos de Uso Múltiplo – CERUMs) in highly drought prone districts, where people can learn and receive government assistance for drought management such as:

i) Water harvesting and management techniques;
ii) Water conservation in agriculture and agro-forestry practices;
iii) Processing and harvesting techniques for agricultural and non-agricultural products;
iv) Drought resistant crops and varieties;
v) Research in natural resources and their multiple and sustainable uses;
vi) Research on climate change;
vii) Livelihood diversification;
viii) Pasture and husbandry management.

From 2007 to 2010, DARIDAS, through CERUMs established in four highly drought prone districts in the south, provided water to more than 100,000 people, established 92 water harvesting systems, trained 51 trainers of trainers (ToTs) in water conservation in agriculture, established 40 hectares of demonstration plots in water conservation in agriculture, established 99 improved granaries/ storage demonstration units, and trained about 500 farmers in agro-processing (INGC, 2011: 34). Population dispersion and limited financial resources to expand actions within districts and to scale up to other districts are some of the key challenges interviewees mentioned with regard to provision of assistance to people. Climate change tends to exacerbate prevailing conditions with rain falling less and less, and migration increasing. Migration of people trained by DARIDAs and other actors set back disaster risk reduction efforts in these areas.

CERUMs were chosen as good practice for the following reasons:

i) The Government and local people own the practice;
ii) Stakeholders participate and are involved in the process (sections 3.2, and 4.2.5);
iii) It has an institutional arrangement; and
iv) They can move from policy to tangible actions. CERUMs have helped to disseminate new technologies in drought prone areas, leading to the reduced food insecurity and market integration. In districts such as Mabote, Chicualacuala and Massangena, where people rarely sell food, they started doing so after CERUMs were set up. This is because people now have access to new drought resistant crops and varieties that help to boost local production.

Key lessons learned from CERUMs

Interinstitutional and interregional coordination: drought management requires concerted actions from INGC, meteorological services, countries or regions upstream and downstream, research centres, the water sector, agriculture, among others. CERUMs were set up to help this coordination. However, many people saw CERUMs as INGC property and limited their interaction with this platform. For example, many people in Guijá complained that they see different organizations working on drought areas but without a clear and articulated agenda. Key actors interviewed in Maputo also underlined the issue.

Settlement patterns in drought prone areas: interviews suggest that drought prone areas have a low population density and that settlement is scattered. This tends to increase the cost of actions and impede efficiency.

Limited replicability: interviews suggest that each drought prone area has its own strengths and weaknesses. There cannot be a "one size fits all" approach. Any new action in a drought prone area requires an assessment of the situation. An approach that has been tested and worked in a given drought prone area cannot be automatically applied to another drought prone area.

6. Conclusions and recommendations

6.1 Conclusions

Mozambique is a disaster prone country. Disasters are, however, an emergent property of hazards and vulnerability conditions. The country lies along the coast of the Indian Ocean and downstream main subregional basins of rivers such as the Zambezi and the Limpopo. The country's geographical location, combined with the limited resilience of the majority of its population – due to prevalent poverty –create perfect conditions for disaster occurrence. Mozambique has a long history of man-induced or natural disasters, resulting from colonization policies and practices, civil war, floods, droughts, cyclones, and earthquakes.

Against this background, the country has been strengthening its capacity to deal with disasters. Several DRR and adaptation to climate change actions have been implemented. DRR is an integral part of the national planning and funding system. Every year, the Government provides funding for DRR actions. Integration of DRR into district planning and establishment of regional CENOEs have decentralized DRR, and brought DRR closer to disaster prone areas.

INGC is the main actor in DRR in Mozambique. It proposes and coordinates policy frameworks and DRR action. To this end, INGC has been expanding thematically and geographically. It has shifted its focus from reactive response to integrate disaster prevention, disaster preparedness, disaster response, early recovery, reconstruction and resettlement. Other actors, such as MICOA, MPD and the United Nations system have all been very influential in strengthening national capacity and in mainstreaming DRR into policies and programmes in Mozambique.

As a result of the various actions, Mozambique is now one of the international reference countries as regards DRR and is likely to reach, by 2015, most of the HFA expected outcomes. The country has put in place clear structures as a response to droughts, flood, cyclones and earthquakes, and is politically and financially committed. Mozambique has also approved a national vision and strategy on adaptation to and mitigation of climate change (2013-2025), which has a clear focus on DRR.

The national and international community praise the Government's overall response to disaster to the extent that some authors such as Foley, 2007, have proposed that Mozambique's disaster management system become a model for developing disaster response strategies in other countries.

6.2 Recommendations

Despite its achievements, DRR mainstreaming and scaling up in Mozambique still need to consider further commitments, with particular attention to:

Addressing urban and social risks: the DRR framework and actions in Mozambique focus on natural hazards and on rural areas. Nonetheless, industrialization and economic and population growth are leading to rapid (unsafe) urbanization. This brings about new disaster risks, which require efforts in land use planning, construction codes, DRR development monitoring and establishment of DRR codes in urban areas. There is an urgent need to address DRR in urban areas in order to prevent future disasters. The DRR Master Plan is limited in this aspect.

Strengthening environmental protection in new investments: environmental protection is one of the core issues that most DRR policies and strategies, and programmes and projects discussed in this report address. As investments in the exploration of natural resources are expanding very rapidly, there is an urgent need to strengthen the environmental protection mechanism to sustain the gains DRR has made. The environment is a key DRR element in eco-DRR. A robust environment helps reduce disasters while degraded ecosystems are half the recipe for disasters. The DRR Master Plan is limited in this area.

Provision of additional resources to implement or monitor strategies and regulations: as discussed in this report, Mozambique has produced considerable DRR frameworks. The issue is to have adequate funding and human resources to implement the framework. As mentioned in good practice 4, partners and donors are more sensitized to respond to disasters rather than to prevent them. This reasoning needs to shift and ECA could play a key role in promoting it.

Interinstitutional and interregional coordination: nearly all the good practices and lessons learned have brought up the issue of coordination. DRR has been defined as a cross-cutting issue. The management of rights and responsibilities across different institutions has been pointed out as an outstanding challenge. Actors have different objectives, planning and budgeting systems, which make it difficult to bring everybody on board. This was particularly highlighted with regard to the merging of DRR and CCA. A further challenge is the coordination of DRR measures across national regions and countries. The relationship and coordination between neighbouring countries, for example, in water and resources management, is still a key challenge, and Mozambique has been 'a victim' of this. Recurrent floods occur partly, because Mozambique has no control over more than 50 per cent of its water resources, which come from upstream countries such as South Africa, Zambia and Zimbabwe. Hence, regional coordination is crucial to DRR in Mozambique.

Enhancing knowledge of DRR, including on gender issues: one of the key lessons learned is that limited understanding of DRR across many sectors hampers DRR mainstreaming. Hence, there is a need to disseminate and advocate for DRR at government and societal levels. In addition, as disasters affect women, men and different social groups differently, there is a need to reflect upon gendered DRR and focus on the most vulnerable groups.

Strengthening DRR documentation and information management and sharing: one of the key lessons learned is poor information management and sharing (see lesson from CERUMs). Several institutions in Mozambique are involved in DRR and adaptation to climate change. However, mapping/documentation of who does what and where is extremely limited. A group of NGOs, led by Save the Children, tried to set up a platform on DRR and climate change but it has not gained enough momentum to become a learning platform. Meetings are ad hoc and there is no clear working strategy. INGC and UNDP, through the Grip project, conducted a pilot mapping exercise in 2011 to identify key actions and actors in DRR in Mozambique. Unfortunately, the exercised lacked continuity and a clear definition of tasks. Finally, one major limitation in terms of information management relates to the limited documentation of local DRR practices.

Reform of CBDRR: it has been very influential in reducing disaster losses from floods. However, the relevance of CBDRR beyond floodplains has been very limited. There is also a need to review and address the incentives for the people involved in CBDRR, kit contents and management of CBDRR.

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Annexes

Annex 1: People interviewed

#	NAME	INSTITUTION	LOCATION
1	Anselmina Liphola/Luís Buchir	MICOA	MAPUTO
2	Paiva Munguambe	MINAG	MAPUTO
3	Agostinho Vilanculos	DNA	MAPUTO
4	Atanásio Manhique	INAM	MAPUTO
5	Andrew Mattick	FAO	MAPUTO
6	Saide Anlaue	SAVE THE CHILDREN	MAPUTO
7	Rui Mirira	SNV	MAPUTO
8	Zinersio Sitoe	KULIMA	MAPUTO
9	Yolanda Mulhuni	GDMR	MAPUTO
10	Maria Helena Sibia	CMA	MAPUTO
11	Lina da Silva	ABIODES	MAPUTO
12	Sheilla Rafi	LIVANINGO	MAPUTO
13	Argentina Manhique	ADMINISTRATION	GUIJJA
14	Bartolomeu Cuinica	SDPI	GUIJJA
15	Antonio Assede	SSMAS	GUIJJA
16	Henrique Mandlaze	CHEFE DO POSTO	GUIJJA
17	Bernardo Muiambo	CHEFE DO POSTO	GUIJJA
18	Elias Chaguala	SDAE	GUIJJA
19	Angelina Augusto	SDEJD	GUIJJA
20	Adelino Matusse	CHEFE DA LOCALIDADE	GUIJJA
21	Simao Homo	CHEFE DA LOCALIDADE	GUIJJA
22	Salomao Ngovene	PRIEST	GUIJJA
23	Agostinho Chambule	WORLD VISION	GUIJJA

Annex 2: Expanded list of DRR and adaptation to climate change actions

Project	Donor	Location	Implementer
Responding to climate change and disaster risk in Mozambique	UNDP/DANIDA/French Development Agency (AFD)	National	INGC
Coping with drought and climate change	UNDP/GEF	Guijá district	MICOA
Strengthening disaster risk reduction and emergency preparedness	UN	National	All UN agencies (delivering as one)
Environment mainstreaming and adaptation to climate change	Spain/UN	Limpopo basin	All UN agencies (delivering as one)
Emergency water supply and climate change	Japan	Maputo and Gaza	MICOA,INGC, DNA
Promotion and protection of livelihoods in the context of climate change	Netherlands/Canada/US	National	WFP,INGC, MINAG
Floodplain management in the Zambezi valley	DFID/UK	Caia, Mopeia, Morrumbala, Tambara	Save the Children
South-South REDD	Norway	National	International Institute for Environment and Development with various institutions
Electrification to reduce biomass consumption	EU	Sofala, Manica, Cabo-Delgado	ME (Fundo Nacional de Energia)
Electrification to reduce biomass consumption	EU	Sofala, Manica, Cabo-Delgado	Climate Innovation Centre (CIC)
Biomass energy conservation	German/Norway/Austria	Manica, Sofala, Maputo	GIZ
Building capacity for CDM projects	Norway	National	MICOA, UEM
Environment sector programme support (ESPS)-CC component	DANIDA	National	MICOA, INGC
ESPS-CC component	EU	National	MICOA, INGC
Climate change and development	Finland	Gaza	International Union for Conservation of Nature
Regional climate change programme for southern Africa*	DFID/UK	Regional	Various
CC Dare*	DANIDA	Regional	INAM, International Union for Conservation of Nature, UEM, MICOA
Cities and climate change*	Norway	International	UNHABITAT and municipalities
African Climate Change Resilience (ACCRA)*	DFID	Regional	Save the Children
Institutional support to African climate institutions*	AfDB	Regional	African Center of Meteorological Application for Development
Adaptation Learning Programme for Africa (ALP)*	DFID/DANIDA/Finland	Regional	CARE
Strengthening disaster risk management	GIZ	National	ARGE, INGC
Impact of climate change on disaster risk and adaptation	UNDP/GIZ/DANIDA	National	INGC
Forestry plantation and carbon sequestration	World Bank/Finland	Zambezia province	PRODEZA,INDUFUR
Capacity-building on clean development mechanisms*	Finland/Spain/Sweden	Regional	UNDP, UNEP,MICOA,ME, MINAG
Disaster Risk Reduction-I	IFRC/Danish Refugee Council (DRC))	Inhambane, Zambezia	Mozambican Red Cross
Disaster Reduction and Development	World Vision	Gaza, Zambezia, Nampula	World Vision, Tulano University

Annex 3: Policies and strategies relevant for DRR

Document	Main Aspects	Links To DRR
National Constitution (re-approved in 2004)	The national Constitution is the mother law. Article 117 of the Constitution stipulates that the State should promote initiatives that aim at guaranteeing ecological equilibrium, conservation and preservation of the environment, in order to improve the living conditions of citizens	The Constitution does not necessarily touch on DRR. However, it tackles environment management, which is indirectly linked to DRR
Environmental law (approved in 1997)	While the Constitution establishes the relevance of the environment, the environmental law sets out the legal basis for environmental action. It determines what should and should not be done in order to protect the national environment	This law recommends prohibiting or limiting actions that could accelerate disaster risks or their impacts. For instance, Article 9 prohibits polluting activities and actions that accelerate erosion, desertification, deforestation and all kinds of environment degradation
Agenda 2025 (approved in 2003)	Agenda 2025 outlines the future scenarios for Mozambique's development. It outlines 4 development scenarios and calls on Governments to foster the "bee" (abelha) scenario, which is based on peace, social stability, vibrant democracy, competitiveness and technological innovation. The scenarios are based on variables of human capital, social capital, economic development and governance	Page 146 of the Agenda identifies DRR as a core issue to be considered in the achievement of national economic development
PARP 2011-2014 (approved in 2011)	The PARP outlines the Government's main actions over 5 years, with the aim of reducing poverty. The PARP intends to reduce the national poverty level from the current 54.7 per cent to 42 per cent in 2014. It identifies 5 key objectives for action to promote (i) agriculture and production and productivity of fisheries; (ii) employment opportunities; (iii) human and social development; (iv) good governance; and (v) good macroeconomic and financial management	In order to achieve objective (i), the Plan dedicatespriority3 to improving natural resources management. The Plan outlines DRR and climate change measures(page 22)
PES 2013 (proposed in 2012)	PES (Plano Económico e Social) is the annual government planning document. It determines the sectors and regions for government expenditure. It operationalizes the PQG and PARP on a yearly basis	The PES 2013 has a specific DRR programme that outlines action to be undertaken in the event of droughts (slow onset disasters); floods, cyclones and earthquakes (rapid onset), resettlement and capacity-building (pages 160-162)
Forestry and fauna law (approved in 1999)	This law sets out the mechanisms for the sustainable use of the country's forestry and fauna. It provides guidelines for the proper use and management of forestry and fauna to improve its value and conservation	By providing guidelines for the sustainable use of flora and fauna, this law indirectly touches on DRR
NAPA (approved in 2007)	NAPA (National Adaptation Plan) outlines government priorities of adaptation to climate change. The Government has decided to focus on 4 major areas of intervention for adaptation, i.e., (i) early warning systems; (ii) protection of coastal areas (iii) the agricultural sector; and (iv) water resources management	The NAPA's areas of interventions lead to DRR
First National Communication (submitted in 2003)	The First National Communication (FNC) was produced under the United Nations Framework Convention on Climate change. It aims to bring to the attention of the Conference of Parties (COP)(i) the national inventory on greenhouse gases; (ii) the steps that the Government has taken to share what the country has so far implemented; and (iii) other information, such as vulnerability, adaptation measures, which are relevant under the Convention. The FNC was key in designing the NAPA	The FNC was the Government's initial step to implementing the Rio and Kyoto Protocols that the country ratified

Document	Main Aspects	Links To DRR
Environmental Strategy for Sustainable Development of Mozambique (approved in 2007)	This Strategy calls for a holistic and common vision of environment management. It claims that the environment is not a responsibility of a particular organization or individuals, hence the MICOA takes the lead, but it needs other actors to make sustainable development possible	If all sectors were aware of the impacts of their activities on the environment and are concerned with DRR issues, then it could help to reduce disaster risks
PEDSA (approved in 2011)	The PEDSA, which the Ministry of Agriculture runs, covers the 2011-2020 period. It outlines major actions that the Government expects will boost agrarian production and hence secure food security. The document also takes DRR and climate change issues into consideration. The section on land, soil, water and forestry (pages 24-26, 45 and 48) clearly refer to aspects of DRR and climate change	The PEDSA very clearly addresses DRR and climate change issues. It also outlines areas for DRR and adaptation to and mitigation of climate change in the agrarian sector
Disaster Management Policy (approved in 1999)	The National Disaster Management Policy is under review. It shifts focus from reactive risk management to a more proactive attitude. This also Policy led to the creation of INGC, which has been using the motto: "Mais vale prevenirqueremediar" (prevention is better than cure)	The Policy addresses ways and means of reducing disaster risks in the country
Master Plan for Prevention and Mitigation of Natural Disasters (approved in 2006)	The Master Plan was developed for a period of 10 years and focused on three major dimensions: (i) water management to prevent floods and droughts;(ii) food security, especially in hazard prone areas; and (iii) emergency management: how to save lives and restore dignity. After 5 years of implementation, the document is under revision	The Master Plan addresses DRR but not in the broader context of climate change. It hardly mentions it. This is a major reason for revising the Plan
Territorial planning law (approved in 2007)	The law sets out guidelines and tools for planning settlements and different land uses. It also refers to land degradation and ecological protection	The law provides a legal basis for DRR based on good settlement patterns
Water Policy and Water Resources Management Strategy (approved in 2007)	The Policy and its Strategy stress sustainable provision of quality and sufficient water to different users. It also refers to the need to manage water in order to prevent droughts and floods. It recommends the need to reduce water-related vulnerability by developing structural and non-structural infrastructure, such as early warning, dams, dikes, reservoirs and irrigation schemes	These instruments embed both, DRR and climate change. Their frontline institution is the National Directorate of Water (DNA)
Energy Strategy (approved in 2000)	The Strategy focuses on increasing the number of people accessing energy sources, as well as diversification of sources of energy. The Strategy also refers to clean and renewable sources of energy sources that aim at protecting the environment	The Strategy does not focus specifically on DRR and climate change. By promoting renewable energies, however, it touches on DRR and mitigation of climate change
Policy and Strategy for Meteorology Development (approved in 1996 and 2006)	This national Policy stresses the need to establish and expand the meteorological network in Mozambique, so that the country and its people can better prevent disasters and take advantage of favourable conditions. In 2006, the government approved a national strategy to develop meteorological services. The Strategy cites DRR and climate change as major reasons for strengthening meteorological services	An expanded and well-functioning meteorological network is important for DRR
National Strategy on Climate Change (ENAMMC 2013-2025) (approved in 2012)	This Strategy outlines DRR, and adaptation to and mitigation of climate change actions	The ENAMMC has 3 key pillars (i) adaptation and management of climate risks; (ii) mitigation and low carbon development; and (iii) cross-cutting issues. DRR is the core issue in pillar (i)

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