

## REPORT

# WORKSHOP ON CLIMATE PROOFING DEVELOPMENT PLANNING IN MOZAMBIQUE

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**Maputo, Mozambique**

**27-28 July 2011**



**Coordination: UNEP & MICOA**




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## EXECUTIVE SUMMARY

United Nations Environment Programme (UNEP), as part of the Joint Programme on Environmental Mainstreaming and Adaptation to Climate Change in Mozambique organized this workshop on climate proofing development planning with the support offered by the Spanish Government through the MDG-F. The aim of the workshop was to provide an introduction to climate proofing development planning for high level government officials, policy and decision makers, including international donors in Mozambique.

This workshop provided a venue for key stakeholders in Mozambique's Gaza province and national level institutions to share ideas, interact and learn from the resource persons and from each other about climate science and risk communication. The overall objective of the workshop was to provide a venue for hands-on work and guidance on the analysis and interpretation of climate data, and on understanding the regional contexts of climate change as a threat multiplier.

*"With every presentation, I learned something new"*

*-participant remarks*

*"I applaud the initiative of this capacity building seminar, hoping that it will strengthen the knowledge and understanding on climate change in Mozambique."*



*We should never forget the wise words: **the natural resources that we have at our disposal today do not belong to us; they were lent to us by our grandchildren and great-grandchildren.** Let us therefore undertake to share our experiences and learn from each other, putting into practice the best we have for the benefit of future generations."*

*Jennifer Topping, UN Resident Coordinator,  
Mozambique*

Key messages from the workshop are summarized below, and clearly indicate the need for similar kinds of initiatives that promote knowledge exchange and provide practical training to those working in the field and at the central level.

Key messages from the workshop are summarized below, and clearly indicate the need for similar kinds of initiatives that promote knowledge exchange and provide practical training to those working in the field and at the central level.

- The practical application of "mainstreaming" is challenging, and requires information, institutions and investments which are only now being developed. There is a crucial need for more practical evidence base and tools.
- There is a need to integrate and coordinate the various initiatives and agencies responsible for climate change or dealing with issues around climate change (including INGC, FUNAB, etc, to achieve common goals).

- There is a need for clear dialogue and integration of local and district needs in the development of programs and plans – so that the issues and challenges of these levels are properly reflected in these documents.
- There is a need to create spaces and opportunities to encourage the exchange of experiences, disseminate available studies and share knowledge around the challenges posed by climate change.

The workshop was taught by leading experts in the fields of climate adaptation and programme managers. The workshop hosted participants representing a diverse set of practitioners from the Gaza province and from national and international agencies.

## OBJECTIVES OF THE WORKSHOP

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The principal objective of the workshop was to provide an introduction to climate proofing development planning for high level government officials, policy and decision makers, including international donors in Mozambique. It was designed as a 2-day training package, based around case studies and documented guidance material readily available from various development partners.

The intended outcome of the workshop was to discuss and learn how to mainstream climate change into policies, strategies and programs, and climate proof ongoing and future activities. The workshop aimed to highlight the wide body of knowledge that already exists on climate vulnerability in Mozambique, and to provide an overview of the variety of tools and guidance on how to use those tools, which will help to make climate proofing a routine government activity. Expected outcomes from this event included:

- Strengthened awareness and understanding of climate proofing and adaptation mainstreaming issues by policy makers and UN agencies in Mozambique
- A Mozambican focus on simple, visual and engaging training materials for climate proofing and adaptation mainstreaming



*“The success of initiatives of this type (the UN Joint Programme) depends essentially on the alignment of the programme plan with the priorities of local government, trying to the extent possible to respond to the real needs and expectations of the local population. Such initiatives should therefore take these priorities as the base for their conception, elaboration, implementation and mid-term revisions in order to maximize the use of resources.”*

*Ana Chichava, Deputy Minister of MICOA*

- Stimulate discussions and recommendations on mainstreaming climate change in Mozambique, with special emphasis in the National Strategy for Climate Change Adaptation led by MICOA.

The training package prepared for this event consisted of 8 modules (Table 1), with three overarching topics:

- Climate change – science, vulnerability and adaptation - background information (modules 01 and 02)
- Climate change initiatives in Mozambique together with impacts, vulnerability, and related changes in Mozambique (modules 03 and 04)
- Climate proofing and mainstreaming (into policies, strategies and sectoral programs) (modules 05, 06, 07 and 08)

TABLE 1: WORKSHOP CONTENTS

Topical Area	Module	Description
1 - Climate Change, Vulnerability and Adaptation	01 Introduction to climate change science	A brief introduction to climate change concepts such as the greenhouse effect, greenhouse gases, climate modeling, downscaling, predicted climate change impacts, and dealing with uncertainty. Including a discussion on why climate change matters for development?
	02 Vulnerability, risk assessment and adaptation	Introduce concepts of vulnerability, natural hazards, resilience, risk assessment and their connection to climate change and adaptation. How to assess which areas should be given priority for adaptation measures. Discussion on screening tools available for risk assessment.
2 - Climate Change Initiatives in Mozambique	03 Climate change impacts, vulnerability and related changes in Mozambique	Overview of results from major studies conducted on climate change in Mozambique. Including climate trends, projections as well as sectoral impacts.
	04 Past and ongoing climate change and adaptation initiatives in Mozambique	Overview of climate change projects and initiatives in Mozambique, including what is being done about climate change at national and international levels.
3 - Climate Proofing and Mainstreaming	05 Climate mainstreaming: rationale and key concepts	Introduction to climate mainstreaming, key concepts, rationales and topical examples.
	06 Climate proofing tools and methodologies	Introduction to the methodology and tools used in climate proofing. Including an introduction of tools and methods applied for integrating climate change considerations at the sectoral level using EIAs, checklists, and others.
	07 Integrating climate change into Sectoral Levels and climate proofing projects	Overview of sectoral approaches in Mozambique aimed at integrating climate change consideration into sector activities. Examination of existing plans and the extent to which they incorporate climate change responses. Use of case studies to illustrate how to integrate climate change into national development plans.
	08 Policies, regulations, and institutional issues related to climate change and INGC	Policies, regulations, and institutional issues related to climate change and INGC, as an upstream planning tool and incorporation of climate change considerations into plans.

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## PROCEEDINGS

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### OVERVIEW

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The workshop was organized by UNEP as part of the Joint Programme on Environmental Mainstreaming and Adaptation to Climate Change in Mozambique, a 4-year programme aiming to support the Government of Mozambique's efforts towards sustainable development through the implementation of 2 components: Environmental Mainstreaming and Adaptation to Climate Change.

This programme is supported by the Spanish Government through the MDG-F and it is jointly implemented by 6 UN agencies - FAO (coordinating agency), UNDP, UNIDO, UN Habitat, WFP and UNEP - , and by 5 national partners - MICOA (main counterpart), the Ministry of Agriculture, the Ministry of Energy, INGC and INAM. While the core of the program has been implemented in the Gaza province, particularly in Chicualacuala, this mainstreaming component is being implemented at the national level.

All documents, presentations, worksheets and photos provided by the resource team are available in the training pack prepared for this workshop.

*“The Spanish Cooperation fully endorses the fight against climate change as a means of reducing poverty. This is firmly entrenched as a key part of the strategic in the Cooperation’s development policy.”*



*In order to ensure the adaptation of the most vulnerable section of the population, it is fundamental to sensitize and train the public sector, at the national, provincial and district level, as well as civil society in climate change and its effects.”*

*Eduardo Busquets, Ambassador of Spain in Mozambique*

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### AGENDA AND PARTICIPANTS

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The Final Agenda and participants list are available in the accompanying annexes.

## SCOPE OF REPORT

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This report aims to provide a summary of the modules within the proceedings, noting the key points presented by the resource persons available as well as the comments from participants and the results of the evaluations conducted (see Annex 2).

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### TOPICAL AREA 1: CLIMATE CHANGE, VULNERABILITY AND ADAPTATION

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#### MODULE 01: INTRODUCTION TO CLIMATE CHANGE SCIENCE

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Presenter: Rui Brito

The objective of this session was to provide an overview of key climate change concepts and ideas by facilitating a discussion around the frequently asked questions published by the Intergovernmental Panel on Climate Change (IPCC). These include a discussion on the relationship between climate and weather, factors that determine the earth's climate, the greenhouse effect, anthropogenic drivers of climate and natural variability, changes in temperature and precipitation, changes in extreme events, in snow and ice, in sea level, and many others.



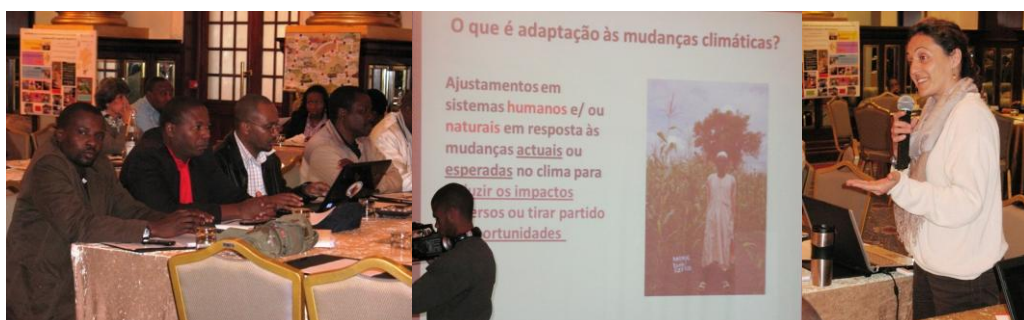
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#### MODULE 02: CLIMATE CHANGE, VULNERABILITY AND ADAPTATION

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Presenter: Fernanda Zermoglio

Vulnerability is the foundation of the analysis of adaptive strategies and measures. This presentation provided a brief introduction to the key concepts related to vulnerability, vulnerability analysis, and risk, summarizing the approaches for carrying out vulnerability analyses and deriving implications for adaptation planning.



## TOPICAL AREA 2: CLIMATE CHANGE INITIATIVES IN MOZAMBIQUE

This topical area was designed to provide an overview of climate change projects and initiatives in Mozambique, including what is being done about climate change at national and international levels.

### MODULE 03: CLIMATE CHANGE IMPACTS, VULNERABILITY AND RELATED CHANGES IN MOZAMBIQUE

This module provided an overview of results from major studies conducted on climate change in Mozambique, including climate trends, projections as well as sectoral impacts.

The key questions answered in this module included:

- What are the projected impacts of climate change in key sectors? (for example in agriculture, fisheries, cities, coasts, pastures)
- What kinds of methods can be used to develop an adaptation strategy?

### PRESENTATION: THE WORLD BANK ECONOMICS OF CLIMATE CHANGE STUDY

Presenter: Rafael Uaiene

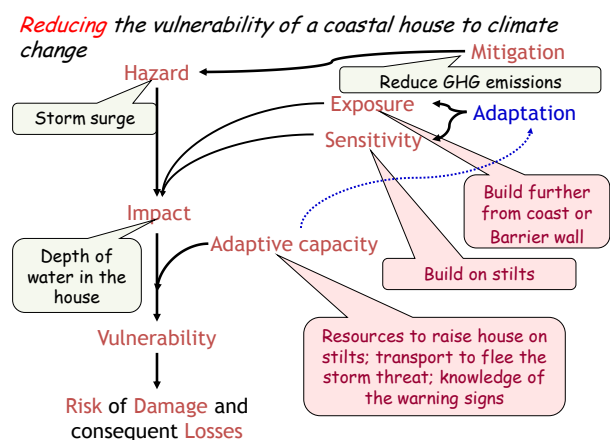
This presentation outlined the objectives and findings of the World Bank's Economics of Climate Change Study as well as some of the major findings from the study and their implications for mainstreaming climate change. The study objectives were to:

- Develop an overall estimate of the cost of adapting to inform the international community in negotiations on climate change
- Help decision-makers in developing countries to assess the risks from climate change and designing strategies for adapting to climate change

In general, the estimated cost of adaption between 2010 and 2050 to a temperature increase of about 2 ° would be between \$ 70 billion and \$ 100 billion. This is the equivalent of all foreign aid that developing countries receive annually.

Findings and recommendations emerging from the study were summarized under 4 key lessons:

- Lesson 1: Economic development is a central element of adaptation to climate change, but should not be "business as usual". Focus on the resilience of the time and ability to adapt, strengthen institutions and ensure that investments in long-term assets are designed to take into account a range of climate scenarios.



Noble, 2010



- Lesson 2: Investment in mitigation must continue in parallel with the adaptation. However, it may be reasonable for developing countries to devote more effort to adapt in the next one to two decades.
- Lesson 3: Do not make investments based on any particular climate scenario, especially for infrastructure of long duration.
- Lesson 4: Give priority to investments and associated measures for both security and the costs of inaction are relatively high. In particular, this should include more effective management of climate risks that countries face today - for example, more investment in water storage basins in drought-prone areas or storm protection and flood defenses coastal areas and / or urban areas.

#### AN ONGOING INGC PHASE II INITIATIVE: PREPARING CITIES FOR CLIMATE CHANGE

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This case study provided initial findings from the National Disaster Management Institute Phase II Study: Responding to Climate Change in Mozambique. The goal of Phase II is to assist Mozambique in formulating and implementing its response to climate change, building resilience through disaster risk- and vulnerability reduction in a structured manner. This case study, on integrating climate change risk assessment and impact in strategies of cities, is part of the larger project and aims to:

- Provide an assessment of the level of exposure and vulnerability of 3-5 cities -and specific locations within these cities- to one or more natural hazards, quantified to the extent possible;
- Establish a ‘city information base’, and increase the level of preparation of the cities, city officials and citizens to deal with extreme events;
- Support the development of a City Strategy for selected cities, including a response plan with roles and responsibilities of city officials and citizens, as well as critical adaptation and mitigation measures in the coming 5-10 years for these cities.



Initial findings presented for the city of Maputo suggest that the expected loss from four major climate change related risks to the city: Inland floods, coastal floods, tropical cyclones and epidemics is currently ~ 50 million USD / year, increasing to 160 to 275 by 2030 (3-5% of GDP). This translates overall to expected losses equivalent to an annual severe economic recession, and much of this is due to inland flooding, which accounts for ~ 60% of the expected loss, while coastal flooding gain relevance in the most pessimistic scenarios of evolution of climate. However, a large number of adaptation measures are available, which could reduce these losses by 8-20% annually.

A participatory exercise led by Diogo Almeida of McKinsey followed, detailing the steps and process used to derive city-scale adaptation measures, starting from risk assessment, identifying costs and opportunities, defining adaptation actions, and prioritizing actions.

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## SUPPLEMENTARY COURSE MATERIALS

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Additional course materials for module 03 included in the training pack but not presented were presentations of the state of the art in studies of climate change impacts and responses on:

- Coastal zones – prepared by Alberto Mavume
- Pastures and Fisheries – prepared by Mozambique’s National Communications Team.
- Climate Change trends and projections – prepared by Antonio Queface

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## MODULE 04: PAST AND ONGOING CLIMATE CHANGE AND ADAPTATION INITIATIVES IN MOZAMBIQUE

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This module highlighted the major adaptation initiatives currently underway in Mozambique and the region which build on impact studies to incorporate climate change into development projects. The key questions answered in this module included:

- What kinds of methods are available to understand climate change impacts and how have these been applied in Mozambique?
- What is being done about climate change in projects and plans in Mozambique and the region?

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### PRESENTATION: OVERVIEW OF ONGOING CLIMATE CHANGE ACTIVITIES IN MOZAMBIQUE

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Presenter: Telma Manjate

This presentation offered a Mozambique perspective on the Kyoto Protocol, the Clean Development Mechanism (CDM), Mozambique’s obligations as a signatory to the Protocol, and an overview of the current status of UNFCCC negotiations leading up to the 17<sup>th</sup> Conference of the Parties to be held in December in Durban.

Plan and progress towards meeting Convention objectives, including initiatives under Mozambique’s second National Communication which support bilateral and multi-lateral funding mechanisms to support climate change, awareness raising campaigns, and a suite of projects to be implemented to reduce impact of climate change in coastal zones, Pemba and Quelimane and coastal protection in Maputo were also highlighted. The ongoing REDD+ consultative seminars, and an update on Mozambique’s National Adaptation Plan, including a new institutional organigram to address climate change under the Convention were presented.

## PRESENTATION: THE AFRICA ADAPTATION PROGRAMME - MAINSTREAMING AND CLIMATE PROOFING FROM A PROGRAMMATIC PERSPECTIVE

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Presenter: Carmen Munhequete (UNDP)

An overview of the Africa Adaptation Programme was presented, highlighting specific initiatives of the programme within Mozambique. The Africa Adaptation Programme aims to improve the adaptive capacity, by promoting early adaptation, creating a basis for long-term investments, and increasing resilience in the face of the effects of climate change in the country. Specifically for Mozambique, the objective of the programme is to integrate the mechanisms of adaptation to climate change in the policy framework, development and investment.

The goals of the project are being addressed via several focal areas presented, including:

- Planning for Adaptation - which aims to integrate adaptation into development via information systems, decision-making forums and strategies and policy documents (PARP, PQG, PES, CMF ...)
- Institutional Capacity Building - Institutional arrangement for effective coordination, Platforms established and trained in multidisciplinary techniques, decision makers and stakeholders informed and made aware
- Plans and Adaptation Measures - Plans, sector policies and strategies set, Pilot projects of the key sectors (SETSAN, EMU, INAM, DNA), and adaptation integrated in the strategy of decentralization
- Financial Strategy - Technical and evidence base in MF and MPD, adaptation integrated into state budget and financing mechanisms for adaptation put in place

Among the adaptation activities noted, the following were highlighted as supporting mainstreaming efforts in Mozambique:

- Establishment of the Center for Knowledge Management on climate change (INGC, EMU, MICOA, INAM)
- Building an underground dam on the river Chéfu (Mahatlane-Chicualacuala)
- Implementation of a meteorological monitoring system on-line to support weather and agricultural activities



## THE REGIONAL CLIMATE CHANGE PROGRAMME

Presenter: Manuel Ruas (One World)

The presentation outlined the lessons learned from the regional climate change program (SADC region) and its relevance to Mozambique. The presentation covered issues such as:

- Different approaches to climate change ranging from gradual adaptation (acclimation) to reaction to climate change (resilience);
- A conceptual framework to understand the relation between climate change and development covering impacts from the first order (temperature and rainfall) up to the fourth order (health and livelihoods), and presentation of future climate scenarios;
- Main findings from the regional climate change studies on risk and vulnerability, climate change and water, food security and Millennium Development Goals;
- The political and government processes at national, regional and international levels, the interface between science and policy, the key questions in the international negotiations, and the need to adopt a national policy related to climate change and communicate it in the international arena;
- The case study of Zambia in integrating climate change into its Sixth National Development Plan.

*"We need to integrate and coordinate the various initiatives and agencies responsible for climate change or dealing with issues around climate change"*

*-participant remarks*



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## TOPICAL AREA 3: CLIMATE PROOFING AND MAINSTREAMING

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### MODULE 05: CLIMATE MAINSTREAMING: RATIONALE AND KEY CONCEPTS

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Mainstreaming climate change adaptation involves implementing adaptation measures as part of a broader suite of measures within existing development processes and decision cycles. This module provided a basic overview of the ideas behind the concept of mainstreaming and outlined some of the available tools to climate proof activities.

The module, as with the Climate Proofing (06 Module) follows closely the guidance provided by OECD (2009), "Policy Guidance on Integrating Adaptation to Climate Change into Development Co-operation", which aims to:

- promote understanding of the implications of climate change on development practice and the need to mainstream adaptation in development co-operation
- identify appropriate approaches for integrating adaptation into development policies at national, sectoral, project levels and at local contexts
- identify practical ways for donors to support developing country partners in their efforts to reduce their vulnerability to climate change

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### FRAMING CLIMATE MAINSTREAMING

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Presenter: Rui Brito

A 30 minute framing presentation was made with buzz group interventions and questions to elicit dialogue on:

- Basics of mainstreaming - what does it mean and what are some cogent reasons for mainstreaming?
- Present a selection of tools to plan and support the processes of mainstreaming adaptation to climate change.
- A discussion on barriers, both within a Mozambican and wider context, to mainstreaming
- Some opportunities and the road ahead for mainstreaming in Mozambique.



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## MODULE 06: CLIMATE PROOFING TOOLS AND METHODOLOGIES

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Climate proofing aims to identify possible ways and means of addressing/integrating appropriate climate change concerns in existing and planned programs and projects. The aim of the module was to provide a basic understanding of the range of available methods to identify measures implemented during project design and revision to address current and future challenges and opportunities presented by climate change.

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## MODULE 07: INTEGRATING CLIMATE CHANGE INTO SECTORAL LEVELS AND CLIMATE PROOFING PROJECTS

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This module provided an example of the challenges of integrating climate change into sector plans and projects. It made use of two case studies (Mozambique's Pilot Programme for Climate Resilience and the early outputs from Theme 5: Food, Meeting Demands of INGC Phase II project) to develop participatory exercises that illustrate methods and challenges in integrating climate change into a sectoral or national development plans.

The key questions answered in this module included:

- What are the challenges involved in integrating climate change into sectoral plans and projects?
- How to define the principal institutions responsible for integrating climate change considerations?
- What methods are available to integrate climate change considerations?

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## PRESENTATION: CLIMATE PROOFING DEVELOPMENT: OPPORTUNITIES AND CHALLENGES

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Presenter: Rita Zacarias

This presentation highlighted the challenges of operationalizing mainstreaming and climate proofing. The presentation covered:

- Examples of risks facing development investments, including:
  - Direct threats to investments (e.g., effect of extreme weather events on infrastructure)
  - Underperformance of investments (e.g. irrigation investments that fail to pay off when rainfall decreases)
  - Maladaptation, as when economic development triggers settlement in vulnerable areas or taxes the resilience of natural resources
  - In addition, there is the risk of forgoing opportunities that may arise from climate change and could be captured if factored into plans and projects.
- An overview of the rationale for integrating climate change into development, including:
  - Climate proofing ensures that project/programme results will not be hampered by potential climate change
  - Climate proofing helps to identify and enhance inherent adaptation value of a project/programme

- Climate proofing ensures that a programme or project results will not lead to maladaptation
- A discussion on who should lead the way in integration:
  - **Government** and their development assistance **partners** should ensure that all proposed, new and upgraded development projects are “climate proofed” at the design stage. This should be part of **good professional practice**, with national, provincial and district climate risk profiles being used as the basis for “climate proofing” infrastructure, community and other development projects. Compliance with this requirement should be assessed as part of enhanced environmental impact assessment procedures. Government should also undertake cost benefit analyses of all major development projects, including determining the incremental costs and benefits. Government should also ensure that all regulations (e.g., building code, public health regulations) are “climate proofed” as this will facilitate enforcement of policies and plans that should, themselves, be “climate proofed”. These actions can be assisted by preparing and implementing National Guidelines for Mainstreaming Adaptation to Climate Change.
  - National and sub-national (Provincial, District) level regulations should be “climate proofed” as this will allow enforcement of policies and plans that should, themselves, be “climate proofed”, in accordance with National Guidelines for Mainstreaming Adaptation to Climate Change.
  - There is a requirement for further development of methods to identify, early in the project cycle, the incremental costs of this “climate proofing”. If for a developing country the incremental costs are large, the Government should request development partners and other relevant agencies to fund the incremental costs. These costs should be met from sources that do not add to the countries’ existing or future debt burdens. The Global Environment Facility (GEF) is one such source of funding for adaptation in developing countries.
- Measures and actions that Mozambique could concentrate on at different levels, from planning to implementation and monitoring in the near future to minimize the economic, social and health impacts of climate change would include (but are not limited to) the following:
  - The government should take lead and coordinate the development and implementation of better regulations, processes and institutions that regulate the construction sector in the way that infrastructures being constructed in disaster prone areas must include climate change risk analysis in the EIA (Environmental Impact Assessment), while a strategy to upgrade the existing infrastructures in those areas should then be applied;
  - To safeguard water quantity (also quality), given the threat of reduced rainfall in the catchment areas of major international rivers ending in Mozambique, the country should plan and invest in construction of dams and dikes, to increase the water availability, while adopting strategies with upstream countries (e.g. “Transboundary Water Management Agreements”), to minimize future water scarcity due to the impacts of climate change;
  - Continue to implement the contingency plan to address flooding and inundations, by revising and strengthening the existing early warning systems (Mozambique piloted with success the introduction of early warning systems in the Limpopo valley). Implementation to all areas at risk in the country should be

promoted; this should include capacity building to INAM to provide accurate and timely weather forecast;

- Need to develop an adaptation programme for coastal protection that could include defence systems to protect coastal cities (e.g. Beira, Quelimane, Pemba, Maputo, etc) and beach resorts from the impact of sea level rise; researchers to be involved to investigate use of local material for costs reduction;
- Invest in diseases control (such as malaria, cholera, meningitis) to adapt to climate change. It could include also re-enforcement of malaria prevention and treatment, vaccination campaigns against meningitis and measles, chlorinating of water, as well as construction of latrines in affected or prone areas, while increasing health education campaigns;
- Prioritize agribusiness: Mozambique offers advantages to agribusiness<sup>1</sup> investors, and has potential to become competitive in a number of important agribusiness categories<sup>2</sup>, while at the same time shift to a more mechanized agriculture. At the same time, should promote investing in agricultural systems that can facilitate adaptation: introduction of drought resistant crop varieties; use shading and sheltering techniques; varying the planting dates where timing of rains has changed; reducing the dependency on rain-fed agriculture;
- Maximize the emerging opportunity in the north of the country with the increasing rainfall (positive impact of climate change), to intensify agricultural production in that region, while drought resistant crop varieties would then be planted in drier areas (South and Centre);
- In the Energy sector, promote production and use of renewable energies as well as biofuels. Bio-energy crops are increasingly important as an export product as well as for local energy supply. An opportunity is the existing land zoning, which will contribute to prevent land use conflicts;
- Working with local communities on their observations on climate change (indigenous knowledge), and linking that to the exercises of Environmental Education (Mozambique has experience in community environmental education).



An exercise was also conducted guiding the participants through the process of climate proofing the Country's National Development Strategy for Poverty Reduction – PARPA and the Pilot Programme for Climate Resilience.

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<sup>1</sup> Agribusiness- refers to a diversity of commercial activities conducted both on farms, as well as off farms. These activities include crop cultivation and animal rearing, forestry, input supplying, agro-processing, merchandising, exporting and retailing, as well as the operations of specialized service providers who support core agribusinesses with transportation, finance, information and other critical services.

<sup>2</sup> Agribusiness categories include: cashew nuts, fish/prawns (including aquaculture), forestry, bio-fuels, poultry, horticulture (including tropical fruits), etc.



## PUTTING IT ALL TOGETHER: A CASE STUDY IN AGRICULTURE

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Presenter: Rui Brito

The session began with a presentation on the “Food - Meeting Demand” thematic component, implemented under INGC’s Phase II Study - Responding to Climate Change in Mozambique. The presentation offered insights on the projected changes in yields of maize, cassava, groundnut, cotton, sorghum and soy bean for Mozambique. Results indicate that significant reductions are expected in crop yields for Mozambique, with the most impacted area being the southern Tete region. A pilot programme is underway to demonstrate the effects of ground level ozone on potential crop yields as well as to explore adaptation measures that could be implemented to reduce these impacts and increase yields.

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### MODULE 08: POLICIES, REGULATIONS, AND INSTITUTIONAL ISSUES RELATED TO CLIMATE CHANGE AND INGC

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This module highlighted the challenges and consultative processes required to design the appropriate institutional arrangements and strategies for incorporating climate change into national plans. A case study on integrating climate change into disaster risk reduction strategies was presented. The key questions answered in this module included:

- What are the main policy and legal instruments in the disaster risk management sector?
- What is the institutional architecture and effectiveness of the coordination among all relevant stakeholders to address climate change related issues associated with DRM?
- What are the key institutional, policy, and other issues that constrain the achievement of better sector results?
- What coordination challenges exist?

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### PRESENTATION

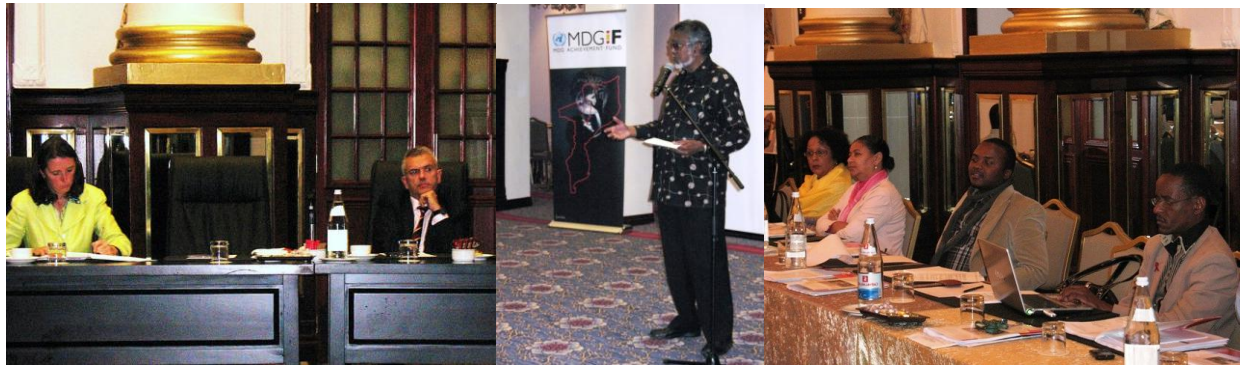
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Presenter: Oscar Monteiro

The presentation included a consultative exercise on policies, regulations and institutional issues related to climate change, with specific focus on developing a national strategy for disaster risk reduction in view of climate change and the new Disasters law.

The reasoning behind the new law and its philosophy in terms of disaster risk management and the inclusion of aspects related to adaptation to climate change were discussed. From the debate it was concluded that Mozambique has accumulated a long and unique experience in dealing with natural disasters with the strong involvement of the local communities through local committees for disaster risk management, which consist of volunteers from the community trained to deal with different aspects of disaster prevention and mitigation to reduce their vulnerability to natural disasters, passing through the decentralized planning in the districts with a specific methodology to include disaster risk management in the district annual plans and activities, and the formulation of

policies and legislation at national level to give the legal base to disaster risk management in Mozambique.



Due to the specific nature of climate change, a transversal and multi-sectorial issue strongly linked to natural disasters, it was suggested that we should use the present approach and structure for disaster risk management to deal also with adaptation to climate change in order to reach and empower local communities with the appropriate knowledge and tools associated with adaptation measures, include climate change in plans and activities at the district level and the new law to promote the culture of prevention and adaptation to the new challenges resulting from climate change.

## ANNEXES

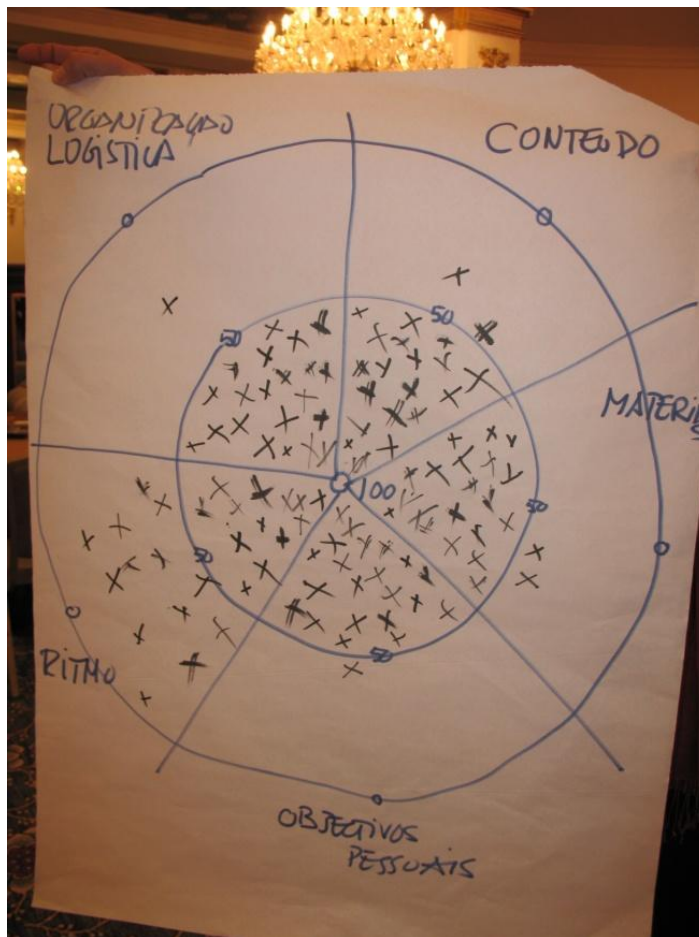
### ANNEX 1: AGENDA

<b>Time</b>	<b>Day-1: 27 July 2011</b>	<b>Presenter</b>
8:30-9:00	<i>Registration</i>	N/A
9:00-9:30	- Welcome and introductions - Workshop Overview – objectives and expected outcomes - Opening Remarks	Minister, MICOA – Ms. Alcinda Abreu UN Resident Coordinator – Ms. Jennifer Topping Ambassador of Spain – Mr. Eduardo Busquets
<b>Moderator: Aniceto dos Muchangos</b>		
<b>Topic 1: Climate Change, Vulnerability and Adaptation</b>		
9:30-10:00	Introduction to Climate Change Science	Rui Brito
10:00-10:30	Vulnerability, Risk Assessment and Adaptation	Fernanda Zermoglio
10:30-11:00	Tea/coffee Break	
<b>Topic 2: Climate Change Initiatives in Mozambique</b>		
11:00-12:00	Overview of Ongoing Climate Change Activities in Mozambique	Telma Manjate
12:00-12:30	Climate Mainstreaming – Concepts and Rationale	Rui Brito
12:30-1:00	The Economics of Climate Change Study	Rafael Uaiene
13:00-14:00	Lunch	
14:00-14:30	Climate Impacts on Cities	Diogo Almeida
14:30-15:45	Case study – Integrating climate change, risks assessment and impacts into city strategies	Diogo Almeida
15:45-16:00	Wrap up of the day and overview of Day 2	
<b>Time</b>	<b>Day-2: 28 July 2011</b>	<b>Presenter</b>
9:00- 9:30	Regional Climate Change Programme	Belynda Petrie and Manuel Ruas
9:30-10:00	The Africa Adaptation Programme – experiences from the field	Carmen Munhequete
<b>Topic 3: Climate Proofing and Mainstreaming</b>		
10:00-10:30	Climate Proofing Development, a case study and lessons	Rita Zacarias
10:30-11:00	Tea/coffee Break	
11:00-12:30	Climate Proofing Development, a case study and lessons	Rita Zacarias
12:30-13:30	Lunch	
13:30-15:00	Putting it all together – A case study in Agriculture	Rui Brito
15:00-16:00	Towards a national strategy for climate change adaptation: Policies, regulations, and institutional issues related to climate change and INGC (presentation and discussion)	Óscar Monteiro
16:00-16:30	Workshop Wrap up, Evaluation and Closing	Wrap up and Evaluation – Moderators Closing – UNEP

## ANNEX 2: EVALUATION

The participants were asked to engage in a short feedback activity related to the usefulness of the workshop content, the applicability of the resources, the coherence of the workshop structure and rhythm, the achievement of learning objectives, and the logistics and organization of the workshop.

This feedback was guided through the use of a bull's eye, which offered participants the opportunity to reflect on their experience during the clinic with respect to these five general criteria, all of which were positively evaluated.



### ANNEX 3: WORKSHOP PARTICIPANTS

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