



Malawi Government

NATIONAL CLIMATE CHANGE INVESTMENT PLAN





**MINISTRY OF ENVIRONMENT AND CLIMATE
CHANGE MANAGEMENT**

ENVIRONMENTAL AFFAIRS DEPARTMENT

**NATIONAL CLIMATE CHANGE
INVESTMENT PLAN**

2013–2018

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FOREWORD

For the past 40 years, Malawi has witnessed significant developments in many sectors of the national economy including environment and natural resources. Sustainability drives the country's approach to socio-economic development as stipulated in the national development aspirations-the Malawi Growth and Development Strategy I and II. As a party to the United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol, Government of Malawi has undertaken various measures towards fulfilment of specific obligations to ensuring sustainability. This includes preparation of Initial National Communication (INC), Second National Communication (SNC), and the National Adaptation Programmes of Action (NAPA). The process of preparing the aforementioned reports encompassed comprehensive scientific and technical consultations involving key sector stakeholders. The reports highlighted Malawi's vulnerability to impacts of climate change in the key socio economic sectors.

Given the gravity of Malawi's susceptibility, there is need to invest in adaptation and mitigation measures to enhance communities resilience. The emergence of climate change related issues as demonstrated by the INC, SNC and NAPA has necessitated preparation of this investment plan. Based on the gaps identified in the INC, SNC and NAPA, the Government, in collaboration with development partners and other key stakeholders, has progressively supported and continues to support numerous efforts on environment and climate change management. Despite the fact that there is growing interest and efforts to address climate change-related issues, investment in climate change actions still remains low and gaps exist in most sectors of the economy. This may partly be attributed to non-existence of national investment plan for the climate change sector.

The primary objective of the National Climate Change Investment Plan (NCCIP) is to increase climate change investments in Malawi. Specifically, the NCCIP aims at developing capacity of the environment and climate change management sector; increasing the protection and conservation of the environment and natural resources and increasing the productivity of the environment and natural resources. The NCCIP will achieve these aspirations through the vision and framework of action by all key stakeholders that it has put in place. I am very certain that the implementation of the NCCIP will enrich the growing efforts many stakeholders have in order to address the critical issues affecting climate change in the country.

Hon. Halima Daud, MP
MINISTER OF
ENVIRONMENT AND CLIMATE CHANGE MANAGEMENT

PREFACE

The Government of Malawi attaches great importance to climate change-related issues. Recently, climate change has emerged as a major development issue, whose impacts affect many sectors and people's livelihoods in the country. Malawi has particularly experienced a number of adverse climatic hazards over the last few decades. The most serious ones have been prolonged dry spells, seasonal droughts, intense rainfall and floods. Some of the adverse effects, especially droughts and floods, have increased in frequency, intensity and magnitude, and have adversely impacted on food security and water availability and quality, energy and livelihoods of many people in both rural and urban areas.

If not adequately addressed, these challenges may negatively affect the growth trajectory of the country's economy leading to the loss of socio-economic development. In this regard, Malawi has taken a bold step to address climate change issues by signing and ratifying the UNFCCC and its Kyoto Protocol. The objective of the UNFCCC is to achieve the stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. This shows the country's total commitment to addressing climate change issues nationally and globally.

Government recognizes that the country is vulnerable to adverse effects of climate change and hence the need for mobilizing adequate resources to address them. The Malawi Growth and Development Strategy (MGDS II), which is the national development strategy, recognizes that natural resources form a principal source of social well-being and economic development in Malawi. However, the resources are currently under constant stress from climate change and unprecedented environmental degradation. Despite the immensity of the problems and response measures being taken, few people in the country appreciate the causes, impacts and consequences of climate change and how this links to national socio-economic development. This calls for an effective plan to guide investment in the field.

In this aspect, the Investment Plan contains principles, goals, objectives and strategies for enhancing climate change investment in the country. I hope that it will be used by all stakeholders including all public sector agencies, NGOs, Private sector, civil society, faith based organizations, the academia and the general public in enhancing their work on climate change. This is intended to yield positive and sustainable results in the national work on climate change management.

Yanira M. Ntupanyama, PhD
SECRETARY FOR
ENVIRONMENT AND CLIMATE CHANGE MANAGEMENT

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The Department further acknowledges all institutions and individuals which were consulted for providing vital information and data that have contributed immensely to the development of this Plan.

¹ Refer to Annexes for List of multi-sectoral team that worked tirelessly to come up with this plan

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MMCT

Mulanje Cedar clusters on Mt. Mulanje

ACRONYMS AND ABBREVIATIONS

ADB	:	Asian Development Bank
ADC	:	Area Development Committee
ADD	:	Agriculture Development Division
AF	:	Adaptation Fund
AfDB CBFF	:	African Development Bank Congo Basin Forest Fund
AMTT	:	Adaptation and Mitigation Technology Transfer
AusAID	:	Australian Agency for International Development
AWG-LCA	:	Ad hoc Working Group on Long-term Cooperative Action
BMZ	:	Federal Ministry for Economic Cooperation and Development.
BNDES	:	Brazilian Development Bank
BVCs	:	Beach Village Committees
BWB	:	Blantyre Water Board
CADECOM	:	Catholic Development Commission of Malawi
CARE	:	Care Malawi
CAM	:	Catchment Area Management
CARLA	:	Climate Adaptation for Rural Livelihoods and Agriculture
CBFF	:	Congo Basin Forest Fund
CBOs	:	Community Based organizations
CC	:	Climate Change
CCATD	:	Climate Change Adaptation Technology Development
CCIP	:	Climate Change Investment Plan
CCM	:	Climate Change Management
CCMTD	:	Climate Change Mitigation Technology Development
CCP	:	Climate Change Programme
CCPO	:	Climate Change Programme Office
CCTD/TCDP	:	Climate Change Technology Development, Transfer and Capacity Development Programme
CCTWGs	:	Climate Change Technical Working Groups
CDM	:	Clean Development Mechanism
CEI	:	Cool Earth Initiatives
CEPA	:	Centre for Environmental Policy Advocacy
CERs	:	Certified Emission Reductions
CET	:	Carbon Emissions Trading
CH ₄	:	Methane
CIDA	:	Canadian International Development Agency
CIFs	:	Climate Investment Funds
CISONECC	:	Civil Society Organization Network for Climate Change
CO ₂	:	Carbon dioxide
CONGOMA	:	Council of Non-Governmental Organizations in Malawi

Malawi's National Climate Change Investment Plan

COP	:	Conference of the Parties
CREMPA	:	Central Region Milk Producers Association
CSOs	:	Civil Society Organizations
CTF	:	Clean Technology Fund
CURE	:	Coordination Union for Rehabilitation of Environment
DAs	:	District Assemblies
DAES	:	Department of Agricultural Extension Services
DARS	:	Department of Agricultural Research Services
DC	:	District Commissioner
DCCCMS	:	District Committee on Climate Change and Meteorological Services
DCCMS	:	Department of Climate Change and Meteorological Services
DCE	:	District Committee on Environment
DCF	:	District Committee on Forestry/Fisheries
DRM	:	Disaster and Risk Management
DEC	:	District Executive Committee
DfID	:	Department for International Development
DJF	:	December January February
DLRC	:	Department of Land Resources Conservation
DNA	:	Designated National Authority
DOC	:	Degradable Organic Carbon
DoDMA	:	Department of Disaster Management Affairs
DoE	:	Department of Energy
DoF	:	Department of Forestry/Fisheries
DoI	:	Department of Irrigation
DoWS	:	Department of Water Supply
DPCCC	:	Development Partners Committee on Environment & Climate Change
DPs	:	Development Partners
EAD	:	Environmental Affairs Department
EBRD	:	European Bank for Reconstruction & Development
ECRP	:	Enhancing Community Resilience Programme
EDRM	:	Enhancing Disaster Risk Management
EEC	:	European Economic Community
EIA	:	Environmental Impact Assessment
EIB GEEREF	:	European Investment Bank - Global Energy Efficiency & Renewable Energy Fund
EMA	:	Environment Management Act
ENR	:	Environment and Natural Resources
ESCOM	:	Electricity Supply Corporation of Malawi
ETF-IW	:	Environmental Transformation Fund-International Window

Malawi's National Climate Change Investment Plan

EU	:	European Union
Ex-Im	:	Export-Import
FAO	:	Food and Agriculture Organization
FBOs	:	Faith Based Organizations
FCPF	:	Forest Carbon Partnership Facility
FIP	:	Forest Investment Programme
FRIM	:	Forestry Research Institute of Malawi
GBI	:	Green Belt Initiative
GCCA	:	Global Climate Change Alliance
GCF	:	Global Climate Finance
GDP	:	Gross Domestic Product
GEEREF	:	Global Energy Efficiency & Renewable Energy Fund
GEF	:	Global Environment Facility
GEF-LDCF	:	Global Environment Facility - Least Developed Countries Fund
GFO	:	Global Financing Opportunities
GHGs	:	Greenhouse Gases
GIS	:	Geographical Information Systems
GoM	:	Government of Malawi
GTZ	:	German Organization for Technical Cooperation
GVH	:	Group Village Headman
Ha	:	Hectare
HI	:	Hatayoma Initiative
HIPC	:	Highly Indebted Poor Countries
HIV/AIDS	:	Human Immuno Virus/Acquired Immuno Deficiency Syndrome
HQ	:	Head Quarters
ICCAI	:	International Climate Change Adaptation Initiative
ICF	:	International Climate Fund
ICI	:	International Climate Initiative
IDA	:	International Development Agency
IDB	:	Inter-American Development Bank
IFCI	:	International Forest Climate/Carbon Initiative
INGOs	:	International Non Governmental Organizations
IPCC	:	Intergovernmental Panel on Climate Change
JICA	:	Japanese International Cooperation Agency
JJA	:	June July August
KfW	:	Kreditanstalt für Wiederaufbau (Reconstruction Credit Institute)
KP	:	Kyoto Protocol
LEAD-SEA	:	Leadership for Environment and Development – Southern and Eastern Africa
LDCF	:	Least Developed Countries Fund

Malawi's National Climate Change Investment Plan

LDCs	: Least Developed Countries
LDF	: Local Development Fund
LUANAR	: Lilongwe University of Agriculture and Natural Resources
M&E	: Monitoring & Evaluation
MAM	: March April May
MDBs	: Multilateral Development Banks
MDGs	: Millennium Development Goals
MEET	: Malawi Environmental Endowment Trust
MERA	: Malawi Energy Regulatory Authority
MENA	: Middle East and North Africa
MGDS	: Malawi Growth and Development Strategy
MIEs	: Multilateral Implementing Entities
MINC	: Malawi's Initial National Communication
MIRTDC	: Malawi Industrial Research and Technology Development Centre
MMCT	: Mulanje Mountain Conservation Trust
MoAFS	: Ministry of Agriculture and Food Security
MoECCM	: Ministry of Environment and Climate Change Management
MoEST	: Ministry of Education, Science and Technology
MoEM	: Ministry of Energy and Mining
MoEPD	: Ministry of Economic Planning & Development
MoEST	: Ministry of Education Science & Technology
MoH	: Ministry of Health
MoIWD	: Ministry of Irrigation & Water Development
MoLGRD	: Ministry of Local Government & Rural Development
MoLUD	: Ministry of Lands and Urban Development
MoTPI	: Ministry of Transport & Public Infrastructure
MoTPWs	: Ministry of Transport & Public Works
MOUs	: Memorandum of Understanding
MoWDI	: Ministry of Water Development and Irrigation
MRA	: Malawi Revenue Authority
MRV	: Measurable, Reportable and Verifiable
MSNC	: Malawi's Second National Communication
Mt	: Metric Tone
MZUNI	: Mzuzu University
N ₂ O	: Nitrous Oxide
NAMAs	: Nationally Appropriate Mitigation Actions
NAPA	: National Adaptation Programmes of Action
NASFAM	: National Association of Small Holder Farmers of Malawi
NBM	: National Bank of Malawi
NBS	: New Building Society

Malawi's National Climate Change Investment Plan

NCCF	:	National Climate Change Fund
NCCIP	:	National Climate Change Investment Plan
NCSA	:	National Capacity Self-Assessment
NEAP	:	National Environmental Action Plan
NEP	:	National Environmental Policy
NGOs	:	Non Governmental Organizations
NIEs	:	National Implementing Entities
NICC	:	National Construction Industry Council
NORAD	:	Norwegian Agency for Development Cooperation
NRCM	:	National Research Council of Malawi
NRM	:	Natural Resource Management
NRSWG	:	Natural Resources Sector Working Group
NSCCC	:	National Steering Committee on Climate Change
NSCE	:	National Steering Committee on Environment
NSCFM	:	National Steering Committee on Forestry Management
NSCMS	:	National Steering Committee on Meteorological Services
NTCCC	:	National Technical Committee on Climate Change
O ₃	:	Ozone
ODA	:	Official Development Assistance
OECD DAC	:	Organization for Economic Cooperation and Development, Development Assistance Committee
OIBM	:	Opportunity International Bank of Malawi
OPC	:	Office of the President and Cabinet
OPIC	:	Overseas Private Investment Corporation
ORT	:	Other Recurrent Transactions
OVOP	:	One Village One Product
OXFAM	:	Oxfam International
PE	:	Personal Emoluments
PES	:	Payment for Ecosystem Services
PIFs	:	Pacific Islands Forum Secretariat
PIN	:	Project Identification Note
POPs	:	Persistent Organic Pollutants
PPCR	:	Pilot Programme for Climate Resilience
PPP	:	Public Private Partnerships
PS	:	Principal Secretary
PSIP	:	Public Sector Investment Plan
PSOs	:	Public Sector Organisations
RECP	:	Resource Efficient and Cleaner Production
REDD+	:	Reducing Emissions from Deforestation and Forest Degradation
Resp. Inst.	:	Responsible Institution
RP5, RP25, RP50	:	Return Period of 5, 25, 50 years, respectively

Malawi's National Climate Change Investment Plan

RHAM	:	Rain water Harvesting Association of Malawi
RTDT	:	Research, Technology Development & Transfer
SBS	:	Sector Budget Support
SCCF	:	Specialized Climate Change Fund
SCF	:	Strategic Climate Fund
SCPMP	:	Smallholder Crop Production and Marketing Project
SLM	:	Sustainable Land Management
SNC	:	Second National Communication
SON	:	September October November
SPA	:	Strategic Priority Adaptation
SPC	:	Secretariat of the Pacific Community
SPREP	:	Secretariat of the Pacific Regional Environment Programme
SREP	:	Scaling Up Renewable Energy Programme
SSA	:	Sub Saharan Africa
STDB	:	Standard Bank
SWAp	:	Sector Wide Approach
SWDs	:	Solid Waste Disposals
SWG	:	Sector Working Groups
SWOT	:	Strengths, Weaknesses, Opportunities and Threats
TA	:	Traditional Authority
NTCCC	:	Technical Committee on Climate Change
TOTs	:	Training of Trainers
TWGs	:	Technical Working Groups
UAE	:	United Arab Emirates
UK	:	United Kingdom
UN	:	United Nations
UNICEF	:	United Nations Children's Fund
UNIMA	:	University of Malawi
UNDP	:	United Nations Development Programme
UNEP	:	United Nations Environment Programme
UNFCCC	:	United Nations Framework Convention on Climate Change
UNFPA	:	United Nations Population Fund
UNHABITAT	:	United Nations Human Settlements Programme
UNIMA	:	University of Malawi
US	:	United States
USA	:	United States of America
USAID	:	United States Agency for International Development
USD	:	United States Dollars
V&A	:	Vulnerability and Adaptation
VDC	:	Village Development Committee
VFAs	:	Village Forest Areas

Malawi's National Climate Change Investment Plan

VNRMCs	:	Village Natural Resources Management Committees
WAMPOCO	:	Waste Management and Pollution Control
WB	:	World Bank
WB FCPF	:	World Bank Forest Carbon Partnership Facility
WESM	:	Wildlife and Environmental Society of Malawi
WFP	:	World Food Programme
WG1	:	Working Group 1
WG1 IPCC AR4	:	Working Group 1 on Intergovernmental Panel on Climate Change Assessment Report 4
WMO	:	World Meteorological Organization
WRAs	:	Water Resources Areas
WUSC	:	World University Services of Canada
Yr	:	Year



Lake Chilwa



Drying out episode of Lake Chilwa

EXECUTIVE SUMMARY

INTRODUCTION AND BACKGROUND

For the past 40 years, Malawi has witnessed significant developments in many sectors of the national economy including environment and natural resources. Sustainability drives the country's approach to socio-economic development as stipulated in the medium term national strategy - the Malawi Growth and Development Strategy (MGDS II, 2011-2016). As a Party to the United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol, the Government of Malawi has undertaken various measures towards fulfilment of specific obligations to meet the objectives of the UNFCCC. This includes preparation of Initial National Communication (INC), Second National Communication (SNC), and the National Adaptation Programmes of Action (NAPA). The reports highlighted Malawi's vulnerability to impacts of climate change in the key socio economic sectors.

Given the gravity of Malawi's susceptibility, there is need to invest in adaptation and mitigation measures to enhance communities resilience, hence this Investment Plan. The primary objective of the National Climate Change Investment Plan (NCCIP) is to increase climate change investments in Malawi. The NCCIP will guide the GoM to allocate budgetary resources based on corresponding requirements and the optimal contribution of the sector to the key priorities of MDGS II, and ensure that the key priority areas of the actions to address climate change and its effects are timely and sufficiently supported with resources so that the economy and society in Malawi develop to their full potential within a well-protected and sustainable environment, safeguarded from major climate change effects, and with responsibility towards present and future generations. It will provide a framework for monitoring, reporting and accounting for the resources allocated to the sector by clearly providing strategic priorities and targets in the management of climate change.



Effect of drought on young maize

CLIMATE CHANGE CHALLENGES IN MALAWI

Climate change impacts in the country are manifested in various forms including through increases in short- and long-run temperatures; shifts in seasonal precipitation patterns, frequency and intensity; increases in extreme events such as severe storms, flooding, droughts and dry spells; climate-related changes in ecosystems; reductions in ecosystems ability to produce desired goods and services; and climate-related changes in social systems. Several studies conducted in the country have established that

Malawi has experienced a number of adverse climatic hazards over the last several decades. The most serious have been prolonged dry spells, seasonal droughts, intense rainfall, river line floods and flash floods. Some of these, especially droughts and floods, have increased in frequency, intensity and magnitude over the last few decades, and have adversely impacted on food security, water availability and security, energy and the sustainable livelihoods of rural communities. Associated effects include disrupted crop calendars, with different pests, diseases and water requirements; heat waves and spread of disease to new areas; increased water demand and reduced water availability. An example is the periodic complete drying out of Lake Chilwa, an inland drainage lake. All these exacerbate poverty

Approximately 80 percent of Malawians depend on renewable natural resources for livelihoods, and the foundation of the national economy is primarily rain-fed agriculture. The success of many important sectors of the economy such as agriculture, water supply and sanitation, transport, tourism, industry, health and education relies on environment and natural resources to enhance their productivity. However, recently environment and climate change have emerged as major development issues that are severely impacting on people's livelihoods.

THE NATIONAL CLIMATE CHANGE INVESTMENT PLAN

The NCCIP identifies the four key priority areas to promote climate change management in Malawi as: adaptation; mitigation; climate change research, technology development and transfer; and capacity building. These areas are aligned to MGDS II, in particular, priority number nine which deals with environment, natural resources and climate change. Implementation of programmes in these key priority areas will be in short, medium and long term. Under the four themes, a total of 11 programmes will be pursued in the implementation of the NCCIP as follows:

- 1 Adaptation Investments
 - a. Integrated Watershed Management Programme;
 - b. Improving Climate Change Community Resilience through Agriculture Production;
 - c. Climate Change Proofing of Infrastructure Development;
 - d. Enhancing Disaster Risk Management;
2. Mitigation Investments
 - a. Enhance Reduction of Emissions from Deforestation and Forest Degradation (REDD+);
 - b. Waste Management and Pollution Control Programme;
 - c. Enhancing Energy-Saving Technology Programme;
3. Research, Technology Development and Transfer Investments
 - a. Climate Change Adaptation Technology Development (CCATD);

- b. Climate Change Mitigation Technology Development (CCMTD);
 - c. Adaptation and Mitigation Technology Transfer (AMTT);
4. Capacity Development Investments
- a. Capacity Development in Climate Change.

All the Programmes have been designed to target women, youth, and disadvantaged groups. The NCCIP will also ensure the participation of women and youths in the implementation of the programmes at community level. Specifically, a 50% inclusion of women in decision making institutions will be observed.

REGULATORY AND OTHER ENABLING CONDITIONS

Malawi takes climate change and its impact on development as a cross-cutting issue that will need to be mainstreamed in the planning process at the national, sectoral and decentralized levels. Government recognises that Malawi, just like many other developing countries, is vulnerable to effects of climate change and hence the need to give special attention to this aspect in the national development strategy.

Institutional, Policy and Regulatory Framework

a) National Level Framework

At national level, the Malawi Government has set up Sector Working Groups (SWGs) responsible for the management of each sector. The SWGs are used as a forum for negotiations, policy dialogue and agreement of sectoral plans and budget undertakings amongst the public, development partners, civil society organisations (CSOs) and private sector. SWGs are also used as a forum for reviewing progress of the sectoral projects and programmes. Climate Change is a sub-sector of the Natural Resources sector, which has a SWG² overseen by the Principal Secretary (PS) for MoECCM.

The Climate Change Sub-Sector already has an active coordination structure, consisting of the National Steering Committee on Climate Change (NSCCC). Though its work is overseen by the Natural Resources SWG, NSCCC has a role which is substantially equivalent to a SWG, being a forum for negotiations, policy dialogue and agreement of sub-sectoral plans and budget undertakings amongst the various stakeholders.

The NSCCC will continue to provide: strategic direction; and inter-ministerial coordination and policy guidance. It will also oversee implementation of policy decisions, endorse consolidated annual work plans and budgets, and monitor progress. It will meet on a quarterly basis.

The NSCCC is currently supported by one TWG, the National Technical Committee on Climate Change (NTCCC). The NTCCC membership includes rep

² The NRSWG comprises the National Steering Committee Technical Working Group on Environment (NSCE), National Steering Committee on Forestry Management (NSCFM), National Steering Committee on Meteorological Services (NSCMS)

representatives from various Government entities as well as civil society, DPs and private sector.

The work of NSCCC is overseen by the Cabinet Committee on Environment and Natural Resources and supported by the Parliamentary Committee on Agriculture and Natural Resources.

b) District Level

The Government of Malawi adopted a Decentralization Policy in 1996 to devolve authority for managing development projects and programmes at district level. The District Council is the focal point for district level policy and programme development, implementation, monitoring and evaluation. All projects and programmes under the NCCIP at District level will be overseen by the District Council for strategic direction, inter-sectoral coordination and policy guidance, overseeing of implementation of policy decisions, endorsement of consolidated annual work plans and budgets, and monitoring of progress.

Implementation of NCCIP projects and programmes at area level will be channeled through the Area Development Committee (ADC) headed by the Traditional Authority. At village level, it will be through the Village Development Committee (VDC) headed by the Group Village Headmen (GVH). In cases where sector specific committees for particular projects exist, implementation of the projects will be done by the ADC and VDC in collaboration with the committee.

Coordination Mechanisms

Because of the multi-sectoral nature of the impacts of Climate change, tackling the impacts from different angles in a synergistic and coordinated way will be necessary. For community based NRM projects, early warning systems, monitoring of environmental indicators and payment for environmental service projects, the NCCIP will promote Co-Management arrangements between Government and communities. In enhancing Private Sector, DPs and CSOs partnerships with communities, the NCCIP will promote the private-social partnerships aimed at driving community development projects and programmes such as REDD+. Effective and efficient extension systems will be promoted in order to benefit from the private-social and public-private partnerships.

The multi-sectoral nature of climate change issues requires that at the outset, institutions for coordination and implementation are outlined to promote synergies and remove duplications. The aim is to ensure that existing institutions are utilized and adapted where necessary. Establishment of new institutions will be done where there is an observed need. The foregoing has therefore outlined the various institutions that are already in place and those that may need to be established at the national, district, area and village levels.

Climate Change Policy and Regulatory Framework in Malawi

Currently, there is no specific climate change policy and legislation in Malawi. However the policy is under development. The Environmental Management Act (1996) and a series of other legislative frameworks promote and mainstream climate change and other socio-economic activities in the country.

The National Environmental Policy (NEP) 1996 and 2004 and the Environment Management Act (EMA) of 1996 are the legal instruments for implementing and enforcing compliance with the various regulatory frameworks for the protection and preservation of the environment. They also provide protection to the ozone layer by regulating substances, activities and practices that deplete or are likely to deplete the stratospheric ozone layer or other components of the stratosphere.

In compliance with the EMA, all development projects including those outlined in the NCCIP will be subjected to Environmental Impact Assessments (EIAs) that help to ensure that development activities are implemented in a sustainable and environmentally-friendly manner. Industrial development projects that emit carbon dioxide are also appraised under EIA arrangements

FINANCING OPPORTUNITIES

There are five main sources of finance which should be considered for the NCCIP.

a) Government

Tax revenues accruing to Government, supplemented by some general budget support from development partners, provide the largest source of funding to implement the NCCIP.

MoECCM, with its Steering Committee on Climate Change (NSCCC) and the Climate Change Secretariat, will lobby central government, line ministries and parliament to prioritise climate change programmes and activities in annual budgeting by each sector involved, in both development and recurrent budgets. In ensuring sustainability, effectiveness and ownership of the climate change investment plans and programmes, the NCCIP will sensitise the various sectors to formulate projects and programmes for incorporation in their budgets.

In particular, this NCCIP demands that all sectoral development projects associated with climate change should have a climate change component as a way of climate proofing all government development programmes. This will ensure that climate change issues are mainstreamed in all the development programmes, as has been the experience in the HIV/AIDS and gender sectors, where it is a requirement to allocate a minimum percentage of recurrent budgets to these issues.

b) Development Partners

Developing countries have committed “*Global Climate Finance*” to help developing countries to carry out mitigation and adaptation actions to the impacts of climate change. These finances are channeled through multilateral and bilateral organisations. Examples of multilateral funds include the Global Environment Facility (GEF), the Adaption Fund (AF) and Climate Investment Funds (CIF). The Green Climate Fund is the major multi-lateral fund, recently established to assist developing countries with preparation and implementation of programmes, projects, policies and activities on climate change. Countries have already started making pledges towards the start-up costs of the Fund, and Green Climate Fund will be a channel for mobilization of US\$100 billion a year in aid to poor, vulnerable countries by 2020.

A large and growing share of climate finance is spent through bilateral development institutions. Several countries have set up special funds focused on climate-related programmes, including Australia, Denmark, Germany, Japan, Norway and the UK, amongst others. In addition other major development partners support climate-related programmes through other channels, like the USA Millennium Challenge Fund support to energy development in Malawi.

A key function of this NCCIP is to facilitate the mobilisation of funds from DPs. However, an issue for Malawi is the in-country capacity for robust fiduciary management, including the timely use of funds. Therefore, the role of the NSCCC is not only to oversee a high standard of climate change investment plans but also that there is capacity to implement effectively at all levels.

c) Civil Society

Many international NGOs that have established offices in Malawi are active in climate change implementation, frequently working through local NGOs, FBOs and CBOs. Some of the funds they bring to Malawi originate from DPs in the countries where INGOs are fund-raising, while a large proportion may be raised from members of the public in developed countries. Much of the funds of INGOs are spent at district and community levels. In addition, some local civil society organizations directly attract funds from outside Malawi, for example, local FBOs that are associated with international FBOs that do not have a Malawi base. The NCCIP aims to facilitate increase in climate financing from civil society.

d) Private Sector

The local private institutions have also been mobilized to support the implementation of the national development agenda including activities on climate change and the environment. Companies such as Carlsberg Breweries, Airtel Malawi, Illovo, NBS Bank, WICO, VIPLY and others have started funding and undertaking activities related to climate change and environmental management, such as planting trees, largely as part of corporate social responsibilities. In addition,

some private sector institutions may wish to invest in climate change projects to enhance their profits. Examples include the investment of tobacco-related companies in afforestation to create low-cost and sustainable supplies of wood fuel for tobacco curing and investment by private energy companies in electricity supply.

The NCCIP therefore encourages private sector financing in climate change either alone or through Public Private Partnerships (PPP). A further element of private sector financing comes from carbon taxes in fuel and electricity prices. Such taxes, if seen to result in suitable climate proofing projects, can be used to raise public awareness of the need for each of us to be part of the response to climate change.

e) **Carbon Trading**

Opportunities exist in the Carbon Emission Trading scheme for developed countries with an emission reduction commitment or private companies within developed countries, to purchase credits from projects in developing countries under the Kyoto Protocol. Malawi is eligible to engage in the Clean Development Mechanism, one of the CET initiatives under the Kyoto Protocol. The country is also engaged in the voluntary carbon market through carbon sequestration (reforestation and afforestation) projects. Reduced Emissions from Deforestation and Forest Degradation (REDD+) initiatives will be traded on the CET once its operation platform is finalized.

Government institutions, private sector organizations, local financing institutions and individuals are encouraged to invest in CET initiatives and benefit from the global carbon market as a measure to mitigate against effects of climate change.

NATIONAL CLIMATE CHANGE FUND

There are seven key national-level programmes focused on climate change and financed by development partners (some of which are included in the Government budget):

National Programme for Managing Climate Change (CCP)

Africa Adaptation Programme

Climate Adaptation for Rural Livelihoods and Agriculture (CARLA)

Public Sector Partnership on Capacity Building for Sustainable Land Management (SLM) in the Shire River Basin (4 years)

Lake Chilwa Basin-Climate Change Adaptation Programme

Enhancing Community Resilience to Climate Change Programme

Creating awareness of opportunities for funding in the area of CDM

Each of the seven main major DP-financed climate change programmes listed above have robust and separate financial management systems, involving direct oversight by each of the respective DPs. However, Government policy on management of projects

and programmes is to promote country leadership and the use of country systems, in line with the Paris Declaration on Aid Effectiveness and the Accra Agenda for Action. Current DP-financed climate change programmes are not consistent with this policy. Moreover, the opportunities for pooling DP funds are limited. In this respect, it is proposed to establish a National Climate Change Fund (NCCF).

The NCCF will be housed in MoECCM, the Ministry responsible for Climate Change Management. However, initially the management of the fund will be staffed by a semi-autonomous team, probably selected from the private sector. The technical and fiduciary oversight of the NCCF would be provided by a specialist TWG of the NSCCC, with the NSCCC taking overall responsibility for oversight. The fund would additionally be subject to external annual audit.

NCCIP BUDGET, MONITORING AND EVALUATION

a) NCCIP Budget

The total budget for NCCIP is US\$954.5 million, covering the 11 priority investments, for a six year period. The four thematic areas of Adaptation; Mitigation; Climate Change Research, Technology Development and Transfer; and Capacity Development are allocated 48.2, 19.7, 19.0, and 13.1 per cent of the budget, respectively.

b) Monitoring and Evaluation

The monitoring and evaluation (M&E) framework for the NCCIP will be based on the national M&E framework coordinated by the Ministry of Economic Planning and Development (MoEPD). The district level institutions will prepare consolidated reports for submission to the national level institutions. The national level institutions will prepare consolidated reports for review at National Climate Change Technical Committee meetings.

M&E inputs will be based on both technical surveys and administrative data sources. Technical surveys will mostly entail baseline, *ad hoc*, mid-term and final evaluation surveys. The NCCIP will promote joint M&E and regular reporting.

CONCLUSION

Malawi's diverse natural resources are under threat from increasing human and livestock population pressures and effects of climate change. The NCCIP will also ensure that the key priority areas to address Climate Change and its effects are timely, well coordinated and sufficiently supported with resources in order to ensure that Malawi develops sustainably with responsibility towards present and future generations. The NCCIP will correspondingly provide a framework for monitoring, reporting and accountability of the resources allocated to the sectors by clearly providing strategic priorities and targets.

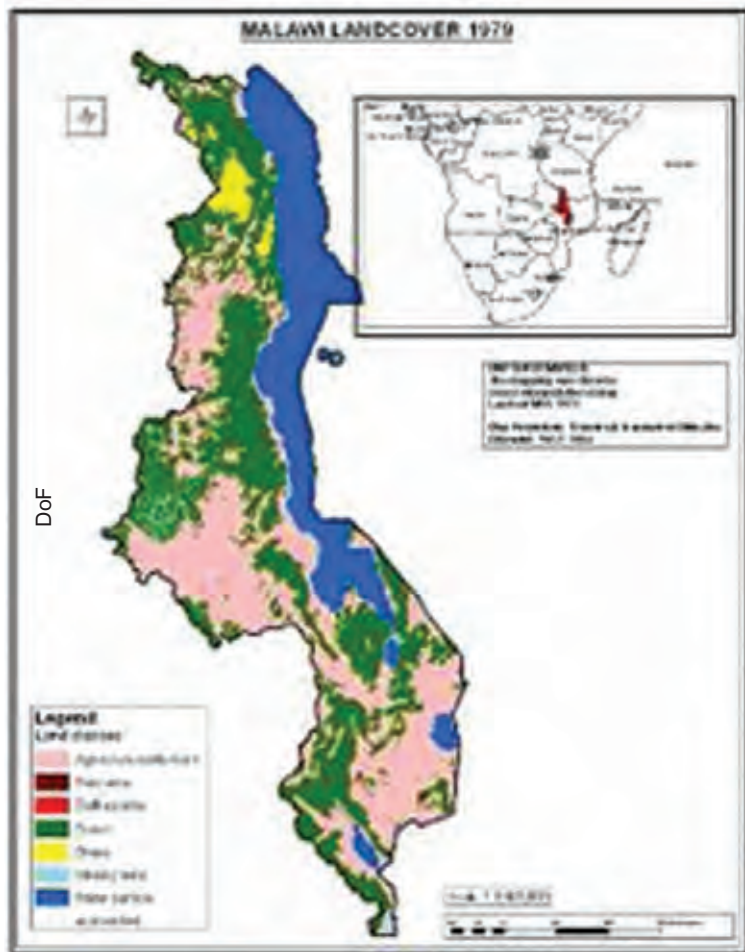
The NCCIP will be implemented by various key stakeholders including government, development partners, private sector, civil society organizations, academia and local communities. Funding for climate change activities in Malawi has been principally from the GEF, bilateral donors, GoM, NGOs and CSOs. Overall, funding levels have been very low and unpredictable due to lack of clear investment priorities. The NCCIP will therefore serve as a resource mobilisation tool, and it is hoped to increase sector funding. A National Climate Change Fund is proposed to be established to support the funding of the key priority areas identified in this NCCIP.

In promoting programme sustainability, the Malawi Government has established and institutionalized sustainability structures encompassing all key stakeholders to ensure a coherent and coordinated approach to programme implementation.

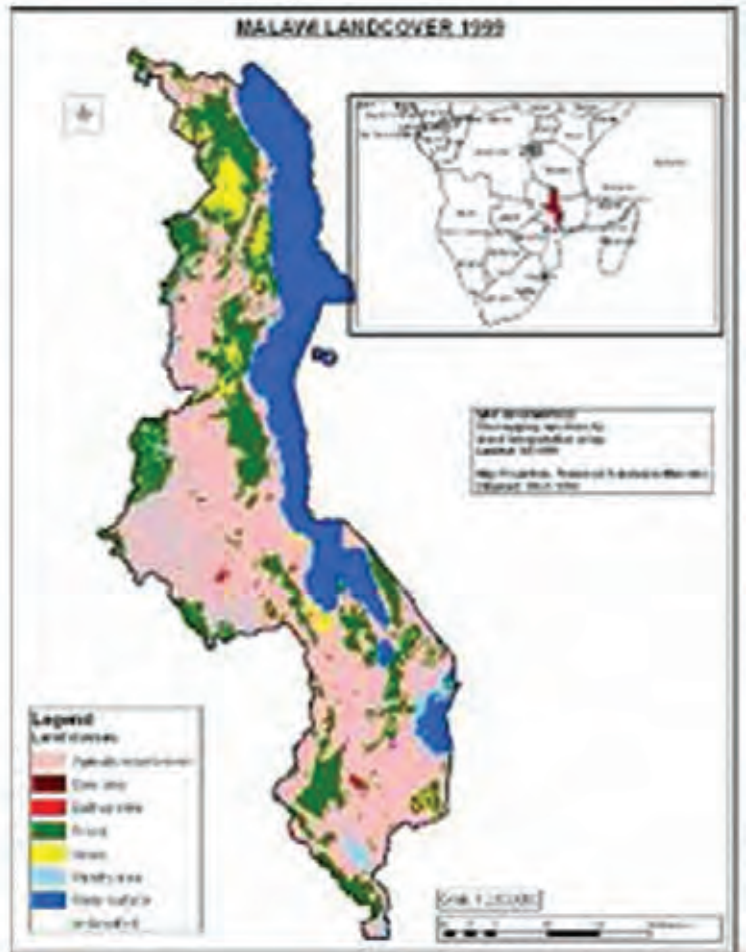
Implementation of NCCIP will be spearheaded and coordinated by MoECCM. Key stakeholders include civil society, private sector, public sector, and development partners. The NSCCC will provide strategic direction, inter-Ministerial coordination and policy guidance, as well as oversee implementation of policy decisions, endorse consolidated annual work plans and budgets, and monitor progress. The M&E framework for the NCCIP will be based on the national M&E framework coordinated by the MoEPD. The district level institutions will collect data and information and prepare consolidated reports for submission to the national level institutions. The national level institutions will prepare consolidated reports for review at TWG meetings. A synthesised M&E framework will be jointly developed and be used as a basis for tracking progress.

In the implementation of the NCCIP, it is anticipated that there will be some risks that might limit achievement of the results. These include: lack of understanding of climate change holistically; inadequate institutional capacity, high staff turnover and weak coordination; fiduciary and governance risks; political instability; and unrealistic expectations and too many conditionalities on the support. This NCCIP has been designed to address such risks and enable Malawi to achieve a strong response to the effects of Climate Change.

DoF



Malawi's cover 1972



Malawi's cover 1999

CHAPTER 1: BACKGROUND

1.1 INTRODUCTION

Malawi is a Sub-Saharan African country, lying in a part of the world that frequently experiences climate change impacts. Malawi's vulnerability to climate change arises mainly from socio-economic, demographic and climatic factors. These include a narrow economic base; limited agro-processing facilities; over dependency on rain-fed agriculture and on biomass for energy; inadequate health facilities; and poverty, exacerbated by drought, floods, natural disasters and population pressure. The result is adverse impact on food security, water availability and quality, and energy, overwhelmingly affecting sustainable livelihoods especially for rural communities.



Young generation most vulnerable to Climate Change

1.2 COUNTRY PROFILE

1.2.1 Location and land area

Malawi is located in south-east Africa between latitudes 9° and 18°South, and longitudes 33° and 36° east. The country is approximately 900 km long, but varies in width from 80 to 160 km. The total surface area for the country is about 118,480 km². Generally, 31% of the land area is suitable for rain-fed agriculture, 32% is marginal, and 37% is unsuitable for rain-fed agriculture.

1.2.2 Climatic profile

The climate of Malawi is greatly influenced by altitude and its proximity to Lake Malawi. The country experiences a tropical continental climate that is characterized by a rainy season that starts either in the month of November or December and ends either in the month of March or April depending on whether the year in question is a good one or not. Likewise, its dry season extends either from March to October or May to October varying with each good or bad year. Annual rainfall ranges from 500 mm in low-lying areas to above 1800 mm over highlands. The mean annual temperature ranges from 12 to 32°C.

1.2.3 The Natural Resource Base

Malawi has a diversity of natural resources that include fertile soils, forest resources, water resources, mineral resources, and flora and fauna. These natural resources, however, are under threat from increasing human and livestock population pressures and effects of climate change.

1.3 SOCIO ECONOMIC PROFILE

1.3.1 Major Demographic Issues

Malawi's population is about 13.1 million (GoM, 2008). About 85% of the people live in rural areas, deriving their livelihoods from natural resources and agriculture (from small land holdings of between 1.0 and 5.0 ha per household of five people), with the remaining 15% residing in urban areas. About 48% of the population is below 15 years of age. The overall average life expectancy as of 2008 statistics is 37 years with fertility rates declining from 7.6 in 1984 to 2.8% in 2008.

Over the decades, there has been migration from rural to urban areas (at the rate of 3.6% per year), and from densely populated to sparsely populated areas or districts. Most of the people relocating from their original homes are moving from areas adversely affected by climatic hazards (especially floods and drought) to safer upland areas or other districts.

1.3.2 Macro-economic situation of Malawi

The Government of Malawi, in an effort to reduce poverty and achieve sustainable economic growth, developed the Malawi Growth and Development Strategy (MGDS) in 2006. The MGDS was expected to transform the country from being a predominantly importing and consuming economy to a predominantly manufacturing and exporting economy. Following the development of the MGDS, Malawi's real Gross Domestic Product (GDP) grew to 9.7% in 2008 as a result of a steady growth in agriculture whose share in the economy was estimated at 31% in 2011. The development of the current MGDS II (2011-2016) represented a policy shift from that of social consumption to that of sustainable growth and infrastructure development. The rationale was to review the strategic link between agriculture which, is the mainstay of the economy, and other sectors to see how it can be improved to accelerate growth and development, with a view to meet the goals of transforming Malawi into a technologically driven middle income industrial nation. However, the GDP growth stabilized at 9% up to 2011 after which it began to decline, reaching its lowest levels of 1.6% in September 2012. The dismal GDP growth has been attributed to poor performance of the agriculture sector in the 2011/12 season and persistent shortage of foreign exchange, lowering productivity of the external sector. In the MGDS II (2011-2016), Government has accorded special attention to climate change and has prioritised interventions that will achieve improved climate change mitigation and adaptation.

The economy maintained a single digit inflation rate of 8.7% in 2008, 8.4% in 2009 and 7.6% in 2010. Inflation was projected to be at 6.9% in 2012 but due to poor performance of the agriculture sector in 2012 the country experienced an inflation of 31% in September 2012. It was recorded at 25.2% in July of 2013, showing recovery.

1.4 CLIMATE CHANGE

1.4.1 The Science of Climate Change

The UNFCCC (2002) defines climate change as a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods.

Human activities that adversely change the atmosphere's composition can be through burning fossil fuels as well as through land surface changes from deforestation, urbanization, desertification, etc., while positive effects can be through reforestation, afforestation, etc., Adverse human activities result in emission of four principal greenhouse gases (GHGs), namely, carbon dioxide

(CO₂), methane (CH₄), nitrous oxide (N₂O) and the halocarbons. These gases accumulate and live long in the atmosphere, causing concentrations to increase with time. Significant increases in all of these gases have occurred in the industrial era (IPCC Synthesis Report, 2007). While these gases, including water vapour and ozone (O₃), allow solar radiation to reach the earth, they do not permit heat from the earth to escape back into space. This changes the land surface physico-chemical properties and alters the energy balance of the climate system, resulting in global warming (WG1 IPCC AR4, p2).

The more GHGs there are in the atmosphere, the more heat is trapped at the earth's surface and the warmer it becomes, reinforcing the natural greenhouse effect. As a result, temperatures rise further and the climate changes, with potentially devastating effects around the world. Climate change is one of the most serious environmental and developmental concerns of our time and has already had observable effects on mankind.

a) Future Climate of Malawi and Projected Impacts

Historically, the Malawi climate has been very variable (Figs. 1.1, 1.2). This variability makes it challenging to predict the future climate. However climate models and experience provide some guidance. Climate models and studies of the past climate indicate that global warming and associated changes will continue if greenhouse gas levels keep rising as is the case now. These models incorporate the many factors that affect climate using mathematical equations based on the fundamental laws of physics together with approximation of some physical processes that cannot be represented exactly.

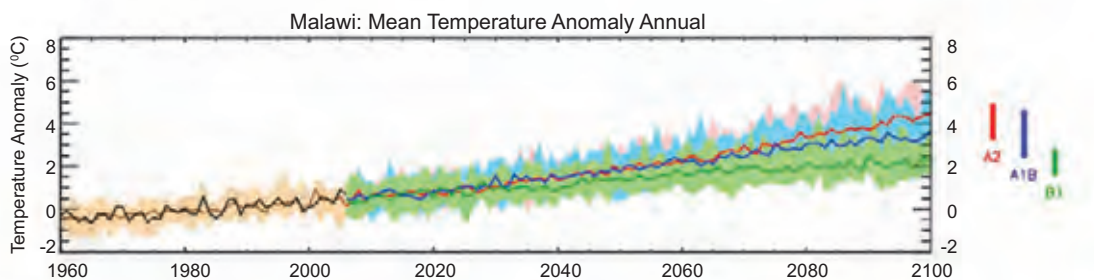


Fig.1.1: Past and future temperatures for Malawi (Source: McSweeney et al. (2010)). Coloured lines and shading show projections; the bars on the right-hand side of the projections summarise the range of mean climates simulated under higher emissions scenarios (A2, A1B) and lower emissions scenario (B1).

The mean annual temperature (Fig. 1.1) is projected to increase by 1.1 to 3.0 °C by the 2060s, and 1.5 to 5.0 °C by the 2090s. Under a single emissions scenario, the projected changes from different models span a range of up to 2.1 °C.

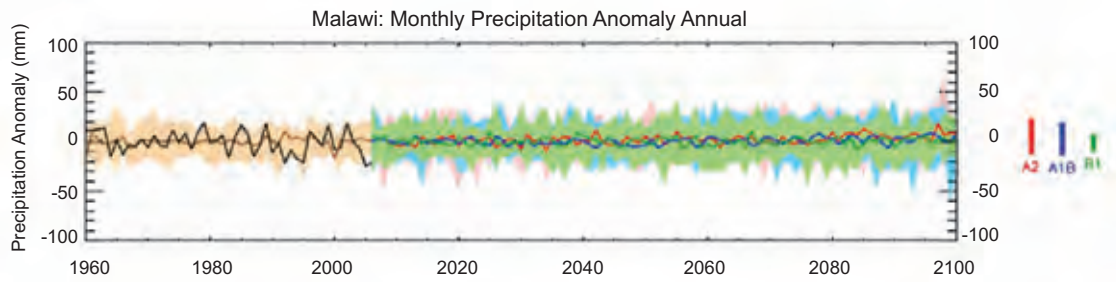


Fig.1.2: Past and future rainfall for Malawi (Source: McSweeney et al. (2010)). Details are given in Fig. 1.1.

Projections of mean rainfall (Fig.1.2) do not indicate substantial changes in annual rainfall. The range of projections from different models is large and straddles both negative and positive (-13% to +32%). Seasonally, the projections tend towards decreases in dry season rainfall (JJA and SON), and increases in wet season rainfall (DJF and MAM).

The projections further indicate substantial increases in the frequency of days and nights that are considered ‘hot’ in the current climate. Similarly, the projections indicate decreases in the frequency of days and nights that are considered ‘cold’ in the current climate. By around 2030, Malawi temperatures are likely to be 1°C higher and the frequency of hot days and nights will have increased. It is likely that the future rainfall pattern across the country will be different from today. It is likely that higher temperatures and changing patterns of wind and rainfall will change the frequency of extreme weather events such as flooding and drought.

Climate change will exacerbate the impacts of other stresses such as population growth which will place additional stress on the land. The major economic sectors are vulnerable to current climate sensitivity, with huge economic impacts, and this vulnerability is exacerbated by existing developmental challenges such as the endemic poverty, complex governance and institutional dimensions; limited access to capital, including markets, infrastructure and technology; ecosystem degradation; and complex disasters. These in turn have contributed to Malawi’s weak adaptive capacity, increasing its vulnerability to projected climate change. The government has developed several adaptation options to cope with current climate variability, but such adaptation interventions may not be sufficient for future changes of climate.

In particular, agricultural production and food security are likely to be severely compromised by climate change. Climate variability will likely reduce the length of the growing season as well as force large regions of marginal agriculture out of production. Climate change will aggravate the water stress currently faced in the country and will impose additional pressures on water availability, water accessibility and water demand.

1.4.2 Economics of Climate Change

The economics of climate change revolves around assessing the economic implications of climate change, the costs of tackling it, and the role of economic

policy instruments in the control of greenhouse gas emissions. Using the results from formal economic models, if we do not act now, the overall costs and risks of climate change will be equivalent to losing at least 5% of global GDP each year, now and forever. If a wider range of risks and impacts are taken into account, the estimates of damage could rise to 20% of GDP or more. In contrast, the costs of action – reducing greenhouse gas emissions to avoid the worst impacts of climate change – can be limited to around 1% of global GDP each year.

Putting a price tag to the costs of adapting to climate change impacts would give the developed countries the incentive to finance adaptation actions in developing countries. According to a study by the World Bank in 2008 and the Stern Report, 2006, 1}the cost between 2010 and 2050 of adapting to an approximately 2°C warmer world by 2050 is in the range of US\$75 to \$100 billion a year. It is estimated that by 2020, developing countries will face approximately US\$100 billion annually in additional costs of mitigating and adapting to climate change. The African Union estimated that Africa needed an annual budget of US\$67 billion in 2009 to cope with the impacts of climate change, which translates to an estimated equivalent of 1.5% of GDP each year by 2030. Using this data, it means that Malawi needs to invest heavily in the strategic sectors between the years 2010 and 2030, to offset climate change related costs.

On average, US\$12.5 million or 1% of the GDP is the cost each year of addressing droughts in Malawi. Severe droughts like the one in 1991/92 reduced



Impact of drought on flowering maize

the national GDP by 10.42% which in 2005 prices is equal to a total economic loss of US\$135.1 million. A drought of this severity is expected to occur only once every 25 years. During more regular but less severe droughts, such as a Return Period of 5 years (RP5), GDP contracts by 0.5 percent.

Agriculture suffers the greatest losses, with declines in GDP ranging from 1.1 to 21.5% during Return Period of 5 years (RP5) and Return period of 25 years (RP25) for droughts, respectively. The ensuing food shortages cause domestic grain prices to rise while grain imports increase rapidly to cover the shortfall. Maize imports, for example, increase by between 6 and 256% during RP5 and RP25 droughts, respectively. Average crop losses due to droughts are 2.8% for small scale and medium scale farmers, compared to 1.3% for large scale farmers. Malawi loses on average 4.6% of its maize production each year due to droughts.

Droughts cause poverty to increase further, both directly through its impact on household incomes and indirectly through its impact on consumer prices. On average, poverty rises by 1.3 percentage points due to droughts alone. Compared to droughts, floods have similar but smaller macroeconomic effects. The National GDP declines by between 1.7 and 4.0% during RP5 and RP25 floods, respectively. On average, Malawi loses US\$9 million or 0.7% of the GDP each year due to floods in the southern region of the country. Taken together, drought and floods cost the Malawian economy about 1.7% of its GDP every year. This is equivalent to almost US\$22 million.

In terms of temperature changes as a result of climate change, the IPCC projects that with increasing emissions and higher temperatures, negative effects will intensify and positive effects diminish. A 2°C increase in temperature is projected to contribute to decline in crop yields in tropical regions (5-10% in Africa), a 3°C increase puts 150-550 million people at risk of hunger and a 4°C increase contributes to yield decline of 15-35% in Africa, including Malawi.

In this regard, the investment that takes place in the next 10-20 years will have a profound effect on climate change adaptation in the second half of this century and in the next. Our actions now and over the coming decades could create risks of major disruption to economic and social activity, on a scale similar to those associated with the great wars and the economic depression of the first half of the 20th century, and it will be difficult or impossible to reverse these changes. In this regard, prompt and strong action is clearly warranted.

In consideration of this, Government recognizes that while climate change is an added cost and risk to development, well-designed and well-implemented national climate change policies and investment plan can also open new economic opportunities to many Malawians.

a) Climate Change, Environment and Development

The protection of the environment has to be a central part of any sustainable inclusive growth strategy including this climate change investment plan. Climate change is likely to disproportionately affect the country's development trajectory because Malawi is characterized by undiversified economic structures, poor infrastructure, poor human resource development and most importantly, the heavy reliance on agriculture for the majority of the population.

The threat to economic growth, which is central to development and poverty reduction, is among the most significant consequences of climate change. The impact of climate change is a threat to Malawi's aspirations for growth and poverty reduction directly through the effects of changing water availability, loss of biodiversity, declining or volatile agricultural yields, climate-related disasters (including floods and droughts), increased incidence and prevalence of vector-borne diseases, weakened infrastructure, political instability due to heightened conflict over resources, and movement of people, as well as through the secondary effects of these phenomena.

The effects of climate change are more severe for vulnerable and disempowered groups in the community, including women and children who have the potential of being strong actors in current and future development.

Addressing these challenges requires climate change adaptation and mitigation strategies that are fully integrated into national development frameworks. However, such strategies could not be delivered without sufficient financial resources, bold structural reforms, adequate technological know-how, good governance and sufficient institutional capacity. There is, therefore, need to mobilize resources at domestic, regional and global levels to invest in such structural, technological, governance and institutional reforms.

1.5 CLIMATE CHANGE IMPACTS AND MALAWI'S VULNERABILITY



Broken bridge from floods

Malawi has experienced a number of adverse climate change related events over the last two decades. The most serious have been prolonged dry spells, shifts in seasonal precipitation patterns, seasonal droughts, riverine floods and flash floods. Some of these, especially droughts and floods, have increased in frequency, intensity and magnitude over the last few decades, and have adversely impacted on food and water security, energy, and sustainable livelihoods of rural communities.

Climate change impacts in the country have also been manifested through reductions in ecosystems ability to produce desired goods and services, and climate-induced changes in social systems. Associated effects include: disrupted crop calendars, with different pests, diseases and water requirements; spread of diseases to new areas; increased water demand; and reduced water availability.

1.6 OPPORTUNITIES CREATED BY CLIMATE CHANGE

1.6.1 Economic Opportunities

Realizing the increasing adverse impacts of climate change on various sectors, financing mechanisms have been put in place by international organizations to finance programs targeted to minimise the impacts. An international carbon market has been set up basing on the three flexible mechanisms established by the Kyoto Protocol which promotes use of cleaner, renewable and environmental-friendly technologies through the Clean Development Mechanism (CDM). Other opportunities include the Payment for Ecosystem Services (PES), Development of Voluntary Carbon Markets and the Reduced Emissions from Deforestation and Forest Degradation (REDD+). In addition to this, there is an opportunity that exists in the economic paradigm shift to Low Carbon Development pathway, which could lead to technological changes and a more sustainable development.

Implementation of these principles to combat climate change gives the opportunity to the GoM to access funds that have been set aside (details in Chapter 8) for sustainable development of natural resources and the environment.

1.6.2 Social Opportunities

Climate change and its impacts have created the quest for knowledge and skills to address them. Their nexus complexity calls for deeper understanding of the science of the natural resources and environment in a multidisciplinary dimension. Hence there is an opportunity to build human capacity through learning by doing.

Climate change may induce available opportunities to developing checks on population growth which is deemed as one of the drivers of climate change. This is achieved by providing education and awareness on family health, and planned child bearing, leading to a reduction in population growth and eventually reduced exploitation of natural resources especially for the rural communities who mostly depend on it for their livelihoods.

The management of climate change requires knowledge of new and appropriate technologies that will eventually sustain livelihoods for the most vulnerable communities. These include but are not limited to: energy-efficient technologies; drought, pest and disease resistant varieties; transfer and use of technologies such as genetics; irrigation systems; land conservation; nutritional science; and advanced technologies such as use of Geographic Information System (GIS).

1.6.3 Environmental Opportunities

By addressing climate change through the following strategies, namely: promotion of Clean Development Mechanism projects; promotion of Payment for Ecosystem Services; and enhancing development of voluntary carbon markets (REDD+), environmental degradation would be addressed. Climate change mitigation could lead to prudent waste management, pollution management and reduced loss of biodiversity. (Deforestation and forest degradation contribute approximately 15-17% of all greenhouse gases. There can be no cost-efficient solution to climate change that does not include mitigation of these emissions. REDD+ stands for Reducing Emissions from Deforestation and Forest Degradation; the 'plus' denotes the conservation of forests, enhancement of forest carbon stocks and sustainable management of forests).

1.6.4 Political Opportunities

Strong commitments to domestic mitigation and introduction of carbon-based instruments in developed countries are key to mobilizing climate finances from both the public and private sector. New public instruments based on carbon pricing are attractive because they both raise revenue and provide incentives for mitigation actions, and could lead to a long term and more sustainable development path. By using domestically and foreign based instruments to combat climate change, a sense of political acceptability is created. By promoting peace and security, climate change support can be given an opportunity for leveraging sustainability. Political synergies should be explored for the enhancement of regional programmes that link up with increased security while locally at the community level, assertive support should be given to co-management agreements.

1.7 RATIONALE FOR THE FORMULATION OF THE NATIONAL CLIMATE CHANGE INVESTMENT PLAN (NCCIP)

Climate change has adversely impacted on food security, water availability and quality, and energy, overwhelmingly affecting sustainable livelihoods especially for rural communities. Efforts to address these through mitigation and adaptation, technology transfer and capacity building have been uncoordinated amongst various stakeholders. Realizing the need to ensure coordinated approaches to managing climate change, the GoM has sought the need to develop well researched plans of activities to provide the foundation and basis for implementing comprehensive and coordinated actions that are geared towards arresting climate change and its hazards, thus the formulation of this National Climate Change Investment Plan (NCCIP).

The NCCIP will therefore ensure that the key priority areas of the actions to address climate change and its effects are timely and sufficiently supported with resources in order to ensure that the economy and society in Malawi develop to their full potential within a well-protected and sustainable environment,

safeguarded from major climate change effects, and with responsibility towards present and future generations.

The NCCIP will guide the GoM to allocate budgetary resources based on corresponding requirements and the optimal contribution of the sector to the key priorities of the MGDS II. It will provide a framework for monitoring, reporting and accounting for the resources allocated to the sector by clearly providing strategic priorities and targets.

Furthermore, Climate change mitigation and adaptation potentially demand increased scientific prowess to deal with constraints such as decreased agricultural production, food insecurity, energy provision, loss of biodiversity, forests and natural habitats in Malawi. The NCCIP will therefore act as a platform for building human capacity that will form the basis for addressing these aforesaid phenomena.

Climate Change is being addressed at local, national, regional and global levels and so there are a number of policy and legal frameworks developed to support this. The NCCIP will be an indispensable tool in guiding the responses geared to combating climate change and its impacts. It will provide the stakeholders at all levels with an outline for mobilizing and utilization of funds towards managing the adverse effects of climate change through sustainable management of the natural resources and environment. It shall also act as a reference tool for lobbying and mobilizing external donor funds to reduce funding gaps.

1.8 METHODOLOGY FOR DEVELOPING THE NCCIP

The NCCIP is a product of an extensive consultative process of a variety of stakeholders. The initial plan was formulated by the Ministry of Natural Resources, Energy and Environment which undertook stakeholder consultations at different levels. The plan was finalized under the Ministry of Environment and Climate Change Management based on the Logical Framework presented in Annex I.

A multi-sectoral team from various stakeholders was set up in order to come up with a comprehensive national climate change investment plan. The drafting team was drawn from relevant public sector organizations, academia, civil society organizations and private sector

Literature review: The team generated a number of literature materials on several emerging issues relating to Climate change in the country. These were reviewed.

Stakeholder consultations: Based on the literature review, the task force team conducted stakeholder interviews using a check list. A list of stakeholders contacted is given in Annex II. Focus group discussions and key informant interviews were conducted particularly with development partners, policy makers, implementers and communities in the public, private and civil society sectors. The main objective of these informal interviews was to capture stakeholders' perceptions on potential investment areas in climate change.

Malawi's National Climate Change Investment Plan

The multi sector interviews formed the basis for identification of action areas and possible funding avenues. This was followed by redrafting of the National Climate Change Investment Plan which was then subjected to a series of validation workshops with the Technical and Steering Committees. The final product was then subjected to a peer review process.



Clean water supply



Access of water from unclean source

CHAPTER 2: CLIMATE CHANGE GOVERNANCE

2.1 INTRODUCTION

The United Nations Framework Convention on Climate Change (UNFCCC) articulates approaches for addressing climate change, namely mitigation, adaptation, capacity building and technology development, diffusion and transfer. The success of sector coordination and creation of appropriate fore to coordinate national institutions and linking them to the international organization to drive the climate change agenda is key to combating climate change.

Governance is defined as the “*interactions among structures, processes and traditions that determine how power and responsibilities are exercised, how decisions are taken and how citizens or other stakeholders have their say*” (Masego, 2010).¹ Governance is thus about power relationships and accountability. It is ultimately about who has influence, who has the voice, who decides how decisions are made and how decision-makers are held accountable.

Malawi as a Party to the UNFCCC recognizes that governance is shaped by and reflected in the values, institutions, and rules of society as a whole. It involves many kinds of people and organizations. Elected officials, civil servants, stakeholders, property and rights claimants, the business community, NGOs, and the media all play important roles in climate change governance. Thus, it follows that while government is an important component, and if investments in climate change activities are to be meaningful, a full understanding of governance shall require looking beyond government. As such improvements in governance should be the responsibility of all stakeholders.

As investments are directed to various sectors and within the stakeholder groups, care should be exercised to ensure that the interests of the weaker and politically disenfranchised are well represented and well protected in a governance reform process.

In Malawi, the governance of climate change entails among others: the amelioration of the state of preparedness which is currently done at the sector level; coordination of the stakeholder institutional arrangements and capacities; the scale of funding required for combating climate change issues; the best ways to administer development cooperation support; effective mechanisms for delivery; and mechanisms to ensure that the efforts target and benefit the most vulnerable sectors of society.

2.2 THE INTERNATIONAL LEGAL FRAMEWORK

The basis for a climate change governance framework lies in the articles of the climate change convention. The UNFCCC and its Kyoto Protocol put the onus for early action on industrialized countries citing “common but differentiated responsibilities”. Article 3.1 of the UNFCCC states that “climate change protection must have an equitable basis in accordance with the Parties’ common but differentiated responsibilities and respective capacities”. In Article 3.4, the convention further states that ‘parties have a right to, and

should, promote sustainable development'. In terms of adaptation, Articles 4.8 and 4.9 of the UNFCCC and Article 3.14 of its Kyoto Protocol require Parties to take measures to minimise the adverse effects of climate change on developing and least developed countries (LDCs).

The two instruments make clear that measures to combat climate change should not limit the ability of developed countries to develop and pay special attention to the needs of the poorest countries and the most vulnerable sectors of society. The instruments make provisions for the transfer of technical and financial resources and other assistance from developed to developing countries necessary for dealing with the impacts of climate change.

2.3 THE GLOBAL EVOLUTION OF CLIMATE CHANGE GOVERNANCE

Recognizing that climate change is a global problem that requires global solutions, the United Nations (UN) through its two specialised agencies (World Meteorological Organisation and United Nations Environment Programme) has championed efforts to fight climate change. On the other hand, the IPCC has provided the scientific knowledge about the state of the world climate. These have led to the world responses to negative climate change impacts.

Box 1: Global Climate Change Governance Evolution

1979	Climate change was recognized as a serious problem by the first World Climate Conference.
1980-1990	A number of intergovernmental conferences on climate change were held. Objectives of the meetings were to raise global concern about the climate change issues.
1988	The Intergovernmental Panel on Climate Change (IPCC) was established by the United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO) to assess the state of existing knowledge about climate change and possible effects.
1990	The second World Climate Conference was held which called for a framework treaty on climate change.
1990	The United Nations General Assembly approved the start of treaty negotiations. The Intergovernmental Negotiating Committee (INC) for a framework was established which met and drafted a climate change convention.
1992	The climate change convention was signed by 154 states and the European Union at the Earth Summit on Environment and Development. 1994: The convention entered into force after 50 states had ratified it in 1994. It currently has 194 Parties.

When scientific evidence of global warming became apparent in the 1970s, there were concerted global efforts to combat the problem which culminated in a series of meetings and the establishment of governance institutions to deal with it and assist in providing the confidence in the investments both at global and national levels. Boxes 1 and 2 provide the evolution of climate change governance at global and national levels:

Box 2: National Climate Change Governance Evolution

1992	Malawi signs the UNFCCC.
1994	Malawi ratifies the UNFCCC.
1994	Malawi develops the National Environmental Action Plan (NEAP) identifying air pollution and climate change as environmental problems.
1997	The first GHG inventory, based on the year 1990 and supported by the US Country Studies Program, was completed.
March 2003	Technology Transfer and Needs Assessment report completed.
2003	Research and System Observation report produced.
2003	National Capacity Self Assessment report produced.
2003	Initial National Communication published and submitted to the UNFCCC Secretariat.
2005	EAD became the Designated National Authority (DNA) for the Clean Development Mechanism (CDM) of the UNFCCC.
2006	National Adaptation Programmes of Action (NAPA) report prepared and published.
2006	Tree planting and Management for Carbon Sequestration and Other Ecosystem Services Programmes started.
2008	NAPA was officially launched at a high level national event.
2009	Government includes climate change as one of the priorities in the MGDs.
2010	National Climate Change programme signed bringing together a multitude of Donors, Technical Assistance providers and national stakeholders to formulate a national Climate Change Response Framework.
2012	Drafting of national Climate Change Policy and Investment Plan.

2.4 EXISTING STRUCTURES AND MECHANISMS FOR POLICY DIALOGUE

At the national level, the climate change management mechanism has been evolving from 1992, when Malawi took the first significant step by signing the UNFCCC in response to the international level advances in climate change initiatives as illustrated in Box 2. Table 2.1 describes outcomes of global climate change policy dialogue and negotiations.

Table 2.1: Global Climate Change Policy Dialogue Forum

COP	Agreements	Outcomes
1	Berlin Mandate	Technicalities for the Kyoto Protocol
3	Kyoto Protocol	Greenhouse gas emissions reduction obligations for Annex I countries. Most industrialized countries agreed to legally binding reductions in greenhouse gas emissions of 6 to 8% below 1990 levels between the years 2008–2012. Kyoto mechanisms such as emission trading, clean development mechanism and joint implementation.
7	Marrakech Accords	Operational rules for international emission trading and for the CDM and joint implementation. Set the stage for nations for the ratification of the Kyoto Protocol
10	Buenos Aires Plan of Action	Climate change adaptation for developing countries. Post-Kyoto mechanism on how to allocate emissions reduction obligation following 2012.
11	Montreal Action Plan	Parties agreed to extend the life of the Kyoto Protocol beyond its 2012 expiration date and negotiated deeper cuts in greenhouse gas emissions.
12	Nairobi Work Programme	A five-year plan of work to support climate change adaptation by developing countries. Parties agreed on the procedures and modalities for the Adaptation Fund. They also agreed to improve the projects for clean development mechanism.

- | | | |
|----|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 13 | Bali Roadmap | <p>Agreement on a timeline and structured negotiations on the post- 2012 framework.</p> <p>The Ad hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA) was established as a new subsidiary body to conduct the negotiations aimed at urgently enhancing the implementation of the Convention up to and beyond 2012.</p> |
| 15 | Copenhagen Accord | <p>Developed countries pledged new and additional financial resources approaching USD30 billion for the period 2010- 2012.</p> <p>Green Climate Fund was established.</p> |
| 16 | Cancun Agreements | <p>Acceptance of carbon capture and storage projects in the CDM. Introduction of Nationally Appropriate Mitigation Actions (NAMAs) for developing countries.</p> <p>Increased actions for Reduced Emissions from Deforestation and Forest Degradation (REDD) in developing countries with technological and financial support.</p> |
| 17 | Durban Platform | <p>Governments agreed to speedily work toward a universal climate change agreement covering all countries from 2020, to be adopted by 2015, and to find ways to scale up efforts before 2020, beyond the existing pledges, to curb emissions so that the world can stay below the agreed maximum 2 degrees Celsius temperature rise. The Durban Platform will become operational as a legally-binding agreement in 2020, if approved and adopted by all Parties in 2015</p> |
| 18 | Doha | <p>The COP-18 in Doha launched a new commitment under the KP and agreed on a firm timetable to adopt a universal climate agreement by 2015. Further agreement was made on a path to raise ambition to respond to climate change. The COP also endorsed the completion of new institutions and agreed on ways and means to deliver scaled-up climate finance and technology to developing countries. The most important result in Doha was the formal adoption of the Kyoto Protocol's second commitment period for 8 years, from 1 January 2013 to 31 December 2020.</p> |

At the national level, government recognizes Sector Working Group (SWG) initiative as a potential structure and mechanism for policy dialogue. The SWG initiative is an integral part of the public sector reforms whose objective is to improve the responsiveness, efficiency and effectiveness of service delivery. It is described as an attempt to operationalize the Paris Declaration (2005) and the Accra Agenda for Action (2008) by enhancing the effective utilization of both local and external resources.

The overall aim of the SWG initiative is to provide a forum for negotiation, policy dialogue and agreement of plans and undertakings among stakeholders at the sectoral level. SWGs are expected to provide a mechanism for monitoring the attainment of development results. They are designed to draw participation from government, development partners, civil society and the private sector organisations. This serves as an inclusive forum for continuous policy and social dialogue. A SWG comprises the various Technical Working Groups (TWGs). Each TWG is a forum for technicians to share experiences in their respective areas. Apart from having a TWG, climate change has also adopted the Technical Committee approach to enhance the efficiency of the structure. The NCCIP falls under the Natural Resources SWG³ overseen by the PS for MoECCM.

In addition, the NCCIP specifically falls under the National Steering Committee on Climate Change (NSCCC) chaired by the PS for Ministry of Economic Planning and Development. The Committee provides policy direction in the implementation of Climate Change programmes in Malawi.

2.5 CLIMATE CHANGE POLICY AND REGULATORY FRAMEWORK IN MALAWI

The Government development policies and aspirations are articulated in the Malawi Growth and Development Strategy (MGDS II). The MGDS identified nine key priority areas for achieving economic growth and creating wealth in Malawi. While addressing issues identified in the MGDS II, the country also achieves the Millennium Development Goals (MDGs) which are critical for immediate improvement of the economic well-being of Malawians. Climate change, natural resources and environmental management is one of the priority areas as espoused in the MGDS II.

However, efforts to improve the economic well-being of Malawians in all the priority areas are hampered by the effects posed by adverse impacts of climate change. The most occurring natural events are: floods, drought and landslides, among many others affecting key sectors including agriculture. Climate change, therefore, may tremendously add to challenges of ensuring food security and poverty reduction in the country.

³ The NRSWG comprises the National Steering Committee Technical Working Group on Environment (NSCE), National Steering Committee on Forestry Management (NSCFM), National Steering Committee on Meteorological Services (NSCMS) overseen by the Principal Secretary (PS) for MoECCM.

Currently, there is no specific climate change policy and legislation. However the policy is under development. The Environmental Management Act (1996) and a series of other legislative frameworks promote and mainstream climate change and other socio-economic activities in the country.

The National Environmental Policy (NEP) 1996 and 2004 and the Environment Management Act (EMA) of 1996 are the legal instruments for implementing and enforcing compliance with the various regulatory frameworks for the protection and preservation of the environment. They also provide protection to the ozone layer by regulating substances, activities and practices that deplete or are likely to deplete the stratospheric ozone layer or other components of the stratosphere.

In compliance with the EMA, all development projects including those outlined in the NCCIP will be subjected to Environmental Impact Assessments (EIAs) that help to ensure that development activities are implemented in a sustainable and environmentally-friendly manner. Industrial development projects that emit carbon dioxide are also appraised under EIA arrangements.

2.5.1 The Constitution of the Republic of Malawi (1995)

Environmental values have been enshrined within the Constitution of the Republic of Malawi. Chapter III; section 13 (d) of the Malawi's constitution adopted in May 1995 stipulates four principles and objectives for managing the environment responsibly. They include:

- (i) prevent the degradation of the environment,
- (ii) provide a healthy living and working environment for the people of Malawi,
- (iii) accord full recognition of the rights of future generations by means of environmental protection, and
- (iv) conserve and enhance the biological diversity of Malawi.

2.5.2 National Environmental Policy (1996)

The NEP was developed to guide all stakeholders in integrating environmental considerations in the national socioeconomic development policies, programmes and plans to ensure sustainable development. The objectives of the policy include: Promotion of efficient utilization and management of natural resources; Facilitation of rehabilitation and management of essential ecosystems and ecological processes; Enhancement of public awareness on the importance of sound environmental management; and Promotion of cooperation between Government, local communities, Civil Society Organizations and private sector in the management and sustainable utilization of natural resources and the environment.

The policy also calls for the institution responsible for environmental affairs to play a facilitating, coordinating and advisory role on all environmental issues.

The mandate of the policy is derived from section 13d of the National Constitution. The policy is also guided by several international conventions and treaties to which Malawi is a signatory.

2.5.3 Environmental Management Act (1996)

The EMA) provides a legal framework for the protection and management of the environment, conservation and sustainable utilization of natural resources. It identifies responsibilities of different stakeholders and calls for the establishment of bodies for coordination of environmental issues. The Act also calls for specific measures to deal with environmental issues such as the need for; Environmental Impact Assessment (EIA) for all development projects; District Environmental Action Plans; and the establishment of the Environmental Fund. Sectoral legislations such as the Forest Act, the Fisheries Act etc. carry specific details of a particular sector but they are required to conform to EMA. The EMA has been reviewed to take into consideration changing situations and provisions of the sector specific policies and legislations.



Indigenous forest

2.5.4 The Forestry Act (1997)

This act replaces the one dating back to 1942 which was narrow in scope and focused on control of resources. The newer legislation embodies the spirit and intent of the National Forest Policy and it aims at protecting the rights of people who grow trees in order for them to benefit fully from their investment.

Among other clauses, it contains provisions for the management of indigenous forests 1}on customary and private land; the management of reserves and protected areas; and the establishment and maintenance of woodlots and plantations. It also provides the legal framework for sustainable utilization of customary land forests/trees with particular emphasis on the formation of local institutions (Village Forest Committees) aimed at promoting organized participatory effort in forest/tree management at the grass roots level.

2.5.5 National Forest Policy (1996)

The National Forest Policy of 1996 represents a significant departure from previous strategies which favoured forest protection rather than sustainable utilization of forest resources. The goal of the policy is to sustain the contribution of the national forest resources to the quality of life in the country by conserving the forestry resources for the benefit of the nation.

The objective of the policy is to improve the quality of life of the Malawi population, particularly rural smallholders, and provide a stable local economy in order to reduce the degenerative impact of development on the environment that often accompanies poverty. The forest policy provides an enabling environment for making forests and tree resources available to communities on a sustainable basis thereby promoting rural development.

It also provides better guidance on the roles and responsibilities of government, the private sector and rural communities in the utilization and management of forests and the linkages with other sectors and land uses. In 2003 the Forest Policy was revised in order to expand on aspects of community based forest management, including access to resources, benefit sharing, the role of traditional leaders and decentralization.

2.5.6 National Fisheries and Aquaculture Policy (1999)

The National Fisheries and Aquaculture policy provides clear guidelines for the development of the fisheries sector. The fisheries sector plays a significant economic and nutritional role to the Malawi's population. The sector contributes 4% towards the Gross Domestic Product (Malawi Fisheries Department, 1998) and is an important source of employment, rural income, food security and import substitution. Lake Malawi is the largest inland water body and also the most important in terms of fish production, navigation and tourism in Malawi. The policy also stipulates roles and responsibilities of public and private sector and civil society organisations in the development of the fisheries industry.

2.5.7 Fisheries Conservation and Management Act (1997)

Fisheries Conservation and Management Act 1997 is a legal instrument that provides for the regulation, conservation and management of the fisheries of Malawi. The Fisheries Advisory Board, comprising stakeholders from a wide range of Government, quasi



Preparing fish for sale at Lake Chilwa

Government agencies, as well as the private sector, has been established and is entrusted with the function of advising the Minister on the development, conservation and management of the fisheries.

The major achievement of the Fisheries Conservation and Management Act is the inclusion of local community participation in the management of the fisheries by acknowledging co-management as a legal option. This was formalized by the inclusion of subsidiary legislations such as the Beach Village Committees (BVCs) by-laws in the fisheries legislation signalling Government's commitment to empowering local communities. The Fisheries Department has been instrumental in devolving power to the fishing community in the management of the fishery.



Fish ponds at Domasi Fisheries

2.5.8 National Water Policy (2005)¹

The Water Resources Management Policy and strategies were developed in 1994. These were later revised to ensure that water resources management issues are adequately harmonized to make maximum contribution of water to the economic, social and environmental advancement and prosperity of the country. The new Water Policy aims to mainstream issues of water resource management, water quality and water utilization into national development.

The objectives of the policy are to: Promote sustainable and integrated water resource management and development to make water readily available and equitably accessible by all Malawians; Ensure water of acceptable quality for all needs; Provide water supply and sanitation services to all at affordable cost;

Promote efficient and effective utilization, conservation and protection of water resources for sustainable agriculture and irrigation, fisheries, navigation, eco-tourism, forestry, hydropower and disaster management and environmental protection.

The policy also promotes international cooperation in the management of trans-boundary waters without compromising the country's sovereignty, security and territorial integrity; Facilitate conformity with regional and international agreements and protocols on shared water resources, catchment protection and management, and water resources monitoring; Promote coordination as a Ministry responsible for water issues with other stakeholders in the water and natural resource management sector; and Involve the private sector in both management of water resources and service delivery. Notable inclusion in the new policy is the decentralization of water resource management to basin level for the establishment of commercially oriented government owned regional river basin authorities.

2.5.9 National Land Policy (2002)

Since independence, the GoM operated without a comprehensive land policy until 2002 when the National Land Policy was developed. The National Land Policy is the key instrument for dealing with all land issues. The goal of the policy is to ensure tenure security and equitable access to land by all citizens of Malawi in order to facilitate ecologically balanced use of land resources. The policy deals with issues of access to land, tenure security and sustainable environmental management. The key focus of the policy is on issues of land ownership, land use, land registration, national physical development plans, and establishing legal framework for land use. Other land sector policy reforms enacted since 1994 to encourage agriculture, forestry, tourism, mining and natural resource management and habitat preservation are also recognized and affirmed by this policy. The land legislation has been prepared and submitted to the cabinet for approval.

2.5.10 National Irrigation Policy (2000)

The irrigation services are guided by the National Irrigation Policy of 2000. Key objectives include: Increasing irrigated agricultural production and enhancing food security; Increasing incomes from irrigated agriculture and other income generating activities and increasing commercialization in irrigated agriculture both at smallholder and estate levels; and Creating an enabling environment for irrigated agriculture by facilitating and encouraging the private sector to invest in irrigation development and encourage rural communities to manage irrigation projects in order to fully utilize irrigable land in Malawi.



Treadle pump for irrigation

The policy includes provisions for undertaking Environmental Impact Assessment (EIA) for all medium and large scale irrigation development programmes and projects to ensure that any detrimental environmental impacts associated with irrigated agriculture are avoided or minimized. Apart from the provision on the EIA, the irrigation policy does not fully highlight key environmental sustainability issues and measures which should be considered in the planning of irrigation development.

2.5.11 Irrigation Act (2001)

The Irrigation Act No 16 of 2001 makes provisions for the sustainable development and management of irrigation, protection of the environment from irrigation related degradations, and establishment of the national irrigation board.

2.5.12 National Land Resources Management Policy and Strategy (2000)

The overall goal of the policy is to promote diversified and sustainable use of land based resources both for agriculture and for other uses in order to avoid sectoral land use conflicts and ensure sustainable socio-economic development. The issues of environment are well enshrined in this policy. Specifically the policy seeks to: improve and sustain the productivity of land for agricultural and other uses through use of sound technologies to conserve soil and water resources, soil fertility improvements and respecting livestock stocking capacities

of land; Promote rehabilitation of degraded lands for both agriculture and other uses with the aim of sustaining the usability of these lands; and Control the dangers of surface run-off water such as soil erosion and all its associated causative factors.

The policy also promotes community awareness and understanding of the importance of sustainable utilization of land resources; Supports the



Elephant at Shire River - Liwonde National Park

development of economically and ecologically sound, and socially acceptable land management technologies; Protects and preserves ecologically sensitive areas such as steep slopes, stream banks, water-shed areas and dambos; Puts in place waste disposal measures deemed appropriate to minimize land pollution; and Promotes natural resources management, conservation and controlled utilization in order to ensure sustainable productivity of land and ecosystems. The policy also pays particular attention to the issue of bringing on board all key stakeholders at both policy formulation and implementation in order to ensure its success.

2.5.13 National Wildlife Policy (2000)

The wildlife policy 2000 is part of government's land use plan and is aligned to the National Environmental Policy as well as related policies such as lands, agriculture, forestry, fisheries, water and tourism. The goal of this policy is to ensure proper conservation and management of wildlife resources. The policy also increases sustainable utilization and equitable access to the resources and

fair sharing of the benefits from the resources for both present and future generations of Malawi.

The policy embraces the following objectives: Ensure adequate protection of representative ecosystems and their biological diversity¹ by promoting and adopting appropriate land management practices that are in line with sustainable utilization considerations; Create public awareness and understanding on the need for wildlife conservation and management and also their relationship to other land use issues; Create a conducive environment for wildlife-based enterprises; Facilitate development of necessary legislation and enforcement mechanisms in order to eliminate illegal wildlife use; and Develop a cost effective legal, administrative and institutional framework for managing wildlife resources without compromising the resources' ecological attributes.

2.5.14 National Energy Policy (2003)

The government places energy supply as one of the priority sectors in the Malawi Growth and Development Strategy (MGDS II). The MGDS is a nationally owned, result-oriented, medium term framework inspired by Vision 2020 and the lessons learnt from the Malawi Poverty Reduction Strategy Paper. The MGDS II defines its long term goal in energy generation and supply as to generate sufficient amount of energy to meet economic and social demands.

The objectives of the Energy policy 2003 are to improve the security and reliability of energy supply; Increase access to affordable and modern technologies; Stimulate economic development and rural transformation for poverty reduction; Improve the energy sector and governance; and Mitigate environmental, safety and health impacts of energy production and utilization.

One of the policy goals is to reduce dependence on biomass energy from 93% in 2003 to 50%¹ in 2020 with the other 50% of energy coming from modern energy sources. Consequently, the government is implementing programmes designed to promote the use of alternative sources of energy other than biomass fuel, and adoption of renewable energy technologies so as to reduce environmental degradation.

2.5.15 Decentralization Policy (1998)

The decentralization policy provides an enabling environment for strengthening the enforcement machinery and decentralizing natural resources and environmental management and governance among others. The policy puts districts in charge of planning and managing local development. As such, districts are an important entry point for integrating climate change, natural resources and environmental management into broader goals and strategies.

Despite all these policies and acts being in place, we do not have effective implementation.

CHAPTER 3: CURRENT INVESTMENT PORTFOLIO AND CHALLENGES

3.1 INTRODUCTION

Malawi continues to make a number of interventions and investments to respond to the impacts of climate change at various levels since ratifying the UNFCCC. In 1996, the GoM undertook the first Vulnerability and Adaptation (V&A) assessment aimed at identifying and developing measures to adapt to climate change with funding from the United States of America (USA) under the US Country Studies Programme. In 1999, the GoM received funding from the GEF amounting to US\$300,000 to conduct the second assessment as part of Malawi's Initial National Communication (MINC) to the UNFCCC, which was completed in 2003.

The MINC covered the inventory of Greenhouse Gases (GHGs), Vulnerability and Adaptation Assessment and Mitigation Analysis. Malawi received an additional funding in 2003 of US\$197,200 for preparing the National Capacity Self-Assessment (NCSA) report. This report outlined areas that need capacity building in the three Rio Conventions namely, the United Nations Framework Convention on Climate Change; Convention on Biological Diversity; and Convention to Combat Desertification at the individual and institutional levels.

In 2006, Malawi completed its National Adaptation Programmes of Action (NAPA), with funding from the GEF. The NAPA identified priority areas for climate change adaptation which needed urgent and immediate interventions. In the same year, the country received funding from GEF to prepare the Malawi Second National Communication (MSNC) as required by the Conference of the Parties (COP) to the UNFCCC. The MSNC was launched in January 2012 and addressed the gaps which were identified in the MINC. It also provided an overview of the trends of new events since the country submitted its MINC to the COP.

Investment in climate change has been a duty of both the public and private sectors, the civil society, the academia and other non-state actors. For example, the public sector has been funding some institutions which have a stake in climate change through the national budgets although the programmes they were implementing were not specific to climate change.

3.2 CURRENT PORTFOLIOS IN CLIMATE CHANGE

Apart from routine programmes and other interventions, the GoM has been implementing different projects with the intent of addressing climate change and its impacts directly. One of the projects called the National Programme for Managing Climate Change (CCP) was aimed at developing a strategic framework for responding

to the challenges that climate change poses for sustainable economic development and national food security in Malawi. Norway, DfID and UNDP financially supported the project with a total budget of US\$4,152,399. The development of the investment plan is one of the outputs of this project.

The second project, Africa Adaptation Programme, which complemented the CCP was aimed at building capacity for integrated and comprehensive approaches to climate change adaptation in Malawi. Financial support amounting to US\$ 3,881,575 was provided by the Japanese government through UNDP. The project also targeted seven pilot districts with adaptation demonstration projects. This project has co-funded the development of this investment plan.

The other project is on Climate Adaptation for Rural Livelihoods and Agriculture (CARLA) which is being funded from the GEF-LDCF to the tune of US\$ 3,000,000. It has been developed to implement the NAPA. The project aims to improve the resilience of local communities to current and future climate variability by developing and implementing adaptation strategies and measures aimed at improving agricultural production and rural livelihoods. The CARLA Project has been developed to supplement the Smallholder Crop Production and Marketing Project (SCPMP), which is in its final year of implementation. The Project is being implemented in Traditional Authority (TA) Kyungu in Karonga District, Kachindamoto in Dedza District and Chapananga in Chikhwawa District.

In 2010, the GoM started implementing the Public Sector Partnership on Capacity Building for Sustainable Land Management (SLM) in the Shire River Basin with funding from the UNDP. The objective of the project is to reduce land degradation in the Shire River Basin through improved institutional, policy and payment for ecosystem services (PES) arrangements. It targets farmers and natural resource dependent communities around the Shire River catchment. The total budget for the Project is US\$5,230,734 and will be implemented over a four year period.

Leadership for Environment and Development (LEAD) of the University of Malawi, in partnership with The World Fish Centre and Forestry Research Institute of Malawi, are implementing a project which develops a range of basin-wide climate change adaptation solutions. The Project is focusing on the human-environment relationships in ten hotspots in the Lake Chilwa Basin. The project is being implemented in support of the country's National Adaptation Programme and is being funded by the Norwegian Ministry of Foreign Affairs. It started in 2010 and runs up to 2015. As highlighted above, climate change projects have received funding from different sources and sub section 4.2 highlights the sources in detail.

The Enhancing Community Resilience to Climate Change Programme is another major initiative in the country supported by DfID, Irish Aid and Norway. The programme has a total funding of £21 million over five years and it is targeting 12 districts in the country. This project is managed by two consortia led by Concern Universal and Christian Aid.

On the climate change mitigation front, Malawi is implementing a capacity building project for the CDM with financial and technical assistance from UNEP Riso Centre of Denmark. The project was being implemented by Environmental Affairs Department, the DNA for CDM up to March 2013. The project was aimed at creating awareness amongst stakeholders including private sector organisations on the opportunities for funding that exist in the area of CDM project development and implementation in Malawi.

Most of the projects implemented in Malawi are adaptive in nature. The least number of projects are in capacity building. Most of the climate change related projects are concentrated in the south and central regions of Malawi (Table 3.1). However, there are some programmes carried out by Government, Civil Society and the Private Sector that are implementing projects that also have a significant climate change component. These include, among others, the National Tree Planting season, OVOP and the Green Belt Initiative,.

Table 3.1: Climate Change Management related projects currently under implementation by Civil Society Organizations

Climate Change Management related projects currently under implementation				
Climate Theme Change Management	Activity/ Project	Regions		
		South	Centre	North
Adaptation	Agricultural production under erratic rains and changing climatic conditions (Water harvesting and Irrigation)	x	x	x
	Improved community resilience through sustainable rural livelihoods, e.g. afforestation, promotion of marketing of crops, irrigation farming, biodiversity conservation, microfinance, promotion of crop diversification, early maturing varieties, promotion of drought resistant livestock, promote disease resistant livestock through breeding, promotion of small livestock, post harvest management technologies, renovation of destroyed infrastructures, improve health services to deal with health challenges that arise as a result of climate change	x	x	x
	Construction of deep wells and medium large scale dams, rehabilitation of water harvesting technologies	x	x	
	Promotion of use of livestock bred for climate change tolerance	x	x	
	Use of improved crop varieties	x	x	

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	Promotion of water harvesting technologies; soil and water measures	x	x	
	Implementation of weather insurance and microfinance programmes	x	x	
	Construction of dykes and levees in flood prone areas			
	Improvement of energy efficiency measures	x	x	
Mitigation	Implementation of sustainable land management programs	x	x	x
	Promotion of brick production from cement	x	x	
	Diversion of storm drains to Blantyre City Sewer	x		
	Promotion of use of alternative sources of Energy including clean energy technologies	x	x	
	Afforestation and forest preservation programmes (Carbon trading and Marketing), promote use of bio-fuels	x	x	
	Promotion of recycling industries for biodegradable and non degradable materials e.g. waste plastic materials	x	x	
Capacity building	Community capacity building on practicing sustainable natural resources management technologies	x	x	x
	Environmental management capacity building projects	x	x	x
	Development of institutional capacity	x	x	x
	Modelling and quantification of carbon sequestration; food based land use systems and technologies in grafting and other skills	x		
Technology development/transfer	Promotion of rain water harvesting technologies	x	x	x
	Construction of dykes and levees in flood prone areas	x	x	x
	Adoption of climate smart agriculture and businesses	x	x	
	Development of drought tolerant crop and livestock technologies including grain bank facilities	x	x	x
	Capacity development in disaster risk management	x	x	x
	Capacity development in conservational agriculture	x	x	
	Development of energy saving technologiesxxxxDevelopment of technologies in river course management	x		

3.3 CHALLENGES AND GAPS

Malawi has identified a number of challenges from various government sectors that limit the response to the impacts of climate change in the country. The sectors include water, energy, agriculture, fisheries, land use change and forestry, wildlife, human health and gender, among others (see Table 3.2). Table 3.3 gives a general picture including the private sector, NGOs, CSOs and development partner organisations.

These challenges point to the investment gaps that exist to implement climate change activities as provided for in Table 3.4. These gaps form the basis for all investment priority areas provided in this NCCIP which will be presented to climate change funding agents and development partners who support CC investments in Malawi.

Table 3.2: Sectoral Challenges Faced by Government in Managing Climate Change

No.	Sector	Challenges/constraints/problems in the sector
1.	Agriculture	Inadequate capacity and training at individual and institutional levels in the implementation of policies, rules and regulations, especially on soil and water conservation, such as complying with planting of trees on a certain percentage of the farm or estate land.
2.	Water	Inadequate expertise and equipment to determine the number of streams that dry up annually, areas where water is chronically scarce and limiting, number of boreholes drilled annually, rise and fall in lake levels, and the monitoring of groundwater levels.
3.	Forestry	Inadequate capacity to <ul style="list-style-type: none"> (i) promote investment in forest industries, (ii) update information and data on deforestation rates, and the contribution of forestry and other land-use sectors to the Gross Domestic Product (GDP), (iii) guide multiple users of forests and forest products, especially on customary land, forest and game reserves and industrial plantations, (iv) enhance the current reforestation and environmental rehabilitation programmes in degraded areas involving local communities and District Assemblies (DAs), and (v) train local communities and staff. Also, capacities on Developing Payment for Ecosystem Services and REDD+ strategies, and its implementation.
4.	Wildlife	<ul style="list-style-type: none"> (i) Various aspects of wildlife management and conservation that require to be addressed through research, (ii) poor incentives and low morale of staff to make the sector attractive for investment and tourism, (iii) meagre law enforcement capacity to reduce poaching owing to lack of sufficient vehicles and communication equipment, (iv) enforcement of wildlife trans-boundary agreements and regulations, (v) legal framework and compliance for collaborative management with communities,

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		(vi) current information on eco-tourism related resources and products in national parks, wildlife reserves and nature sanctuaries, such as historical, cultural, natural, spiritual and archaeological sites. Further, Malawi does not have an updated database on the dwindling rates of wildlife due to Climate Change Related factors.
5.	Fisheries	(i) Low fish catches due to environmental degradation and the pollution of the waters, (ii) dwindling spawning areas, drying of water bodies.
6.	Mining	(i) laxity in the enforcement of mining laws and poor harmony of regulatory frameworks among forestry, agriculture, wildlife, mining and tourism, and (ii) lack of know-how and specialist skills in mining and industrial processing.
7.	Energy	(i) Lack of equipment and technical know-how for estimation of GHG from the Energy and Transport sectors (ii) low levels of adoption of alternative sources of energy.
8.	Waste management	(i) Lack of capacity in waste management such as waste composition; degradable organic carbon; fractions to municipal solid waste deposited in SWDS, solid waste incinerated in hospital and clinics and industrial waste water treatment plants.
9.	Human health	(i) Limited research to establish the actual magnitude of the relationship between climate variability and disease incidence, occurrence and severity.
10.	Disaster Risk Management	(i) Lack of expertise to conduct hazard mapping and risk assessments to determine areas and population most affected by disasters, (ii) Lack of resources and expertise to clearly quantify economic losses caused by various disasters.



Destruction by bushfires

Table 3.3: General Climate Change Challenges in Malawi

CLIMATE CHANGE CHALLENGES	CLIMATE CHANGE CHALLENGES (continued)
Inadequate capacity and coordinated responsive system to climate change issues.	Weak enforcement of environmental and climate change related legislations (no specific Act on Climate Change).
Weak policy implementation and political interference.	Inadequate capacity to formulate bye laws for regulating climate change issues;
High staff turn-over in government.	Inadequate capacity in macro and micro weather insurance programmes;
High cost of CC investment, and the related infrastructure limitations.	Lack of clear policy on climate change management.
Low value attached to carbon trading; inadequate buyers of sequestered carbon; difficulties in identifying buyers.	Unsustainable afforestation programmes.
Inappropriate technologies for climate change management.	Low budget allocation to climate change management.
Weak financial markets to sustain climate change management programmes.	Emphasis on climate change coping interventions instead of holistic approach.
Weak early warning systems.	Weak climate change management information systems.
Inadequate capacity to deal with climate change related issues.	Conflicting policies in climate change related sectors.
Conflicting and competing technologies.	

In dealing with the aforementioned challenges (Tables 3.2 and 3.3), the following investment gaps as provided in Table 3.4 are very apparent in Malawi.



Backyard solid waste disposal

Table 3.4: Investment Gaps

Focus Area	Investment Gaps
Capacity Development	<ul style="list-style-type: none"> • Capacity development to improve local communities adaptive capacity to climate change impacts in agriculture and energy; • Multi-sectoral climate change management information systems (databases/banks); • Expertise in modelling, weather forecasting, GHG emissions recording etc; • Climate change policy and regulations; • Law enforcement enhancement in wildlife, mining, natural resources and environment (both locally and internationally); • Climate change and disaster monitoring equipment /tools; • Hydrological and climate monitoring systems; • Afforestation and reforestation interventions to contribute to increased forest cover; and • Training for media to be able to cover climate change issues, for advocacy and awareness promotion.
Technology Development,	<ul style="list-style-type: none"> • Environmentally friendly technologies Diffusion and Transfer (waste disposal, modern landfills, eco industrial cluster development, capture fisheries, energy provision, mining, and health sector i.e. solar energy for electricity and water in rural hospitals); and • Environmentally friendly technologies Rural electrification.
Research and Systematic Observation	<ul style="list-style-type: none"> • Periodic assessments of natural resources (forests, water, wildlife, fisheries and other land use systems) to generate data; and • Joint research activities (south-south and

	north-south partnerships) in climate change, natural resources and environmental management (e.g. waste management modelling and simulation for disposal sites, incidence of climate change related diseases etc).
Mitigation Greener/Clean Technology	<ul style="list-style-type: none">• Expertise in developing green/cleaner technologies;
CDM	<ul style="list-style-type: none">• Expertise to tap on CDM and their implementation in the country;
REDD	<ul style="list-style-type: none">• REDD and REDD + Strategy;• Low Carbon Emission Development Strategy;• Incentive measures for management of planted trees under afforestation programmes; and• Incentive measures for management of Wildlife, Natural Resources and Environment.
Adaptation	<ul style="list-style-type: none">• Index Based Micro weather insurance;• Research in climate change friendly agriculture technologies;• Conservation agriculture enhancement;• Environmental friendly irrigation technologies; and• Sustainable land and water management.

3.4 STAKEHOLDERS IN CLIMATE CHANGE

The term stakeholders in climate change refers to relevant people, groups, or organizations that have a direct or indirect stake in climate change. For a list of stakeholders currently playing a significant role in climate change management, see Annex II. Some key stakeholders in climate change include government, development partners, private sector, civil society organizations, and academia. These stakeholders play different roles as detailed below:

3.4.1 Government

The Government plays regulatory and coordination roles by ensuring that climate change projects and programmes are implemented in accordance with international climate change protocols and conventions, national policies, regulations and guidelines. This coordination is done by the Ministry of Environment and Climate Change Management. It also provides the infrastructure to ensure that information on climate change mechanisms have the widest reach.

Parastatals also play an important role by ensuring that climate change activities are mainstreamed in their core institutional programmes and also provide finance and expertise in climate change programmes.

3.4.2 Local communities

In most cases, local communities, especially women, suffer the worst effects of climate change due to lack of adaptive capacity. Hence, they play a central role in the implementation of the various climate change programmes and projects which contribute to sustainable development of the country.

3.4.3 Development Partners

Development Partners (DPs) provide financial support and professional expertise especially in areas not supported nationally because of lack of resources. They also implement climate change related activities as part of global projects affiliated to some conventions to which Malawi has subscribed.

3.4.4 Academia

The Academia plays an important role in the climate research by providing scientific data and opinion, socio-economic and ecological implications of climate change and climate change related projections and recommendations for the future.

3.4.5 Civil Society Organizations

Civil Society Organizations play an active role in climate change advocacy by lobbying various stakeholders to adopt progressive climate change policies. In some cases, they implement climate change programmes on the ground.

3.4.6 Private Sector

The private sector plays a key role of investing in a range of climate change mitigation technologies including hydropower, solar power and wind power generation technologies. It is also involved in the management of improved and sustainable use of technologies in climate change management. For example, carbon credits can be realised from the emission reduction technologies if implemented to replace high carbon emitting technologies. They can play a role in the Public Private Partnerships in some investment initiatives. This is where the private sector can play a role, given the appropriate enabling conditions. They also incorporate climate change in their core policies, thereby assisting Government in implementing its low carbon development

strategies as part of the Green Economic Development. They financially and professionally support the formulation and implementation of carbon emission reduction projects.

3.4.7 Media

The media plays a key role in raising public awareness on climate change issues. Particularly, it plays a role in informing rural communities who suffer most due to adverse impacts of climate change due to their low adaptive capacity.



Chanco Community Radio Station



Estone Sambo

Bare hill due to deforestation

CHAPTER 4: CURRENT FINANCING

4.1 INTRODUCTION

This chapter provides information about current levels of Climate Change financing in Malawi.

4.2 CURRENT NATIONAL LEVEL DP-FUNDED PROGRAMMES

The current investment portfolio detailed in the preceding chapter is summarised in Table 4.1.

Table 4.1: Malawi's Current Investment Portfolio

Programme	Donor(s)	Total finance
National Programme for Managing Climate Change (CCP)	Norway, DfID and UNDP	US\$4,152,399
Africa Adaptation Programme	Japanese government through UNDP	US\$ 3,881,575
Climate Adaptation for Rural Livelihoods and Agriculture (CARLA)	GEF-LDCF	US\$ 3,000,000
Public Sector Partnership on Capacity Building for Sustainable Land Management (SLM) in the Shire River Basin (4 years)	UNDP	US\$5,230,734
Lake Chilwa Wide Climate Change Programme adaptation	Norwegian Ministry of Foreign Affairs	NOK35,000,000 (about US\$5,950,000)
Enhancing Community Resilience to Climate Change Programme	DfID, Irish Aid and Norway	£21,000,000 (about US\$ 32,550,000)
Creating awareness of opportunities for funding in the area of CDM	UNEP Riso Centre of Denmark	US\$135,000

Although Malawi has relied on the GEF and other bilateral development partners to implement climate change related programmes, funding levels have been very low and unpredictable due to the voluntary nature of funding from Annex I Parties (GEF, 2010) and lack of clear investment areas in CC for the nation which this investment plan is addressing.

4.3 CURRENT FINANCING THROUGH GOVERNMENT

The Malawi Growth and Development Strategy MGDS II has put climate change and environmental management among the key priority areas. All climate change activities and programmes generated from the MGDS II are implemented with funding from various sources including the national budget, development partners, civil society and private organizations.

To benefit from the national budget, Government institutions come up with projects and programmes that get funding through the Public Sector Investment Programme (PSIP), which is included in the development budget presented to Parliament and through the recurrent budget, including both Other Recurrent Transactions (ORT) and Personal Emoluments (PE). The overall budget considered by Parliament combines government resources and some (but not all) of the resources from development partners.

The national budget, as one of the funding tools for climate change activities, supports various activities in agriculture and natural resources sectors. They include energy, land resources conservation, water and irrigation, forestry, climate change and meteorological services, environmental management, disaster risk management and wildlife management.

In the 2011/12 fiscal year, an estimated budgetary allocation towards climate change related activities in Government ministries ranged from MK31 million (USD97,000) to MK5,079 million (USD15,871,000). The Natural Resources and Environmental Management subsector had the highest budgetary allocation in the year while the Disaster Preparedness, Relief and Rehabilitation had the least budgetary allocation (Table 4.2). The three year trend in the allocation of public financial resources to environment, natural resources and climate change related activities shows an increase in some sub-sectors and meagre increase in others. Generally, of all the climate change related areas, the most increases were in the Natural Resources and Environmental Management sub-sector (Table 4.2).

Table 4.2: Current Expenditure Pattern in the Environment, Natural Resources and Climate Change Sector

<i>Programme as Given in the Malawi Government Budget Document</i>	2010/11 (MK billion)	2011/12 (MK billion)	2012/13 (MK billion)
Land Resources	1.96	0.96	0.99
Natural Resources and Environmental Management	3.78	5.08	9.55
Meteorological Services	0.35	0.32	0.17
Environmental Services	0.05	0.49	0.11
Forestry Management	0.95	1.80	1.03
Water Resources Management	0.98	1.13	1.27
Water Sanitation	0.75	0.81	0.50
Development Projects	1.92	2.87	1.64
Disaster Preparedness, Relief and Rehabilitation	0.02	0.03	0.02
Wildlife Management and Conservation	0.45	0.68	1.31
Total for ENR + CC	11.22	14.19	16.58
Equivalent in USD millions (at MK320 = \$1)	\$ 35.1 mn	\$44.3 mn	\$51.8 mn

4.4 OTHER CURRENT FINANCING FF CLIMATE CHANGE PROGRAMMES AND PROJECTS

In addition to funding from multilateral organizations, bilateral donors and Government budget, Malawi also gets funding and contributions for climate change (and climate change-related) projects from other stakeholders, including INGOs, NGOs, FBOs and the private sector.

4.5 OVERALL FINANCING

Information about current climate change financing is not yet complete and so there is no overall picture of current financing. In particular more information is needed about financing provided by INGOs, NGOs, FBOs and the private sector.



Estone Sambo

Reforestation



MMCT

Mulanje Cedar nursery

CHAPTER 5: KEY PRIORITY INVESTMENT AREAS

5.1 INTRODUCTION

The national stakeholder consultations and a critical analysis of literature for this plan, including the NAPA, have led to the identification of four key priority areas to promote climate change management under the NCCIP in Malawi. Gap analysis, expert reviews and inter-ministerial review also played a major role in the identification process. Based on the extensive consultations and literature review, the themes for key priority investment aligned to the UNFCCC are: i) adaptation; ii) mitigation; iii) climate change research, technology development and transfer; and iv) capacity building. These areas are aligned to the Malawi Growth and Development Strategy II (GoM, 2012) in particular Priority Number nine which deals with environment, natural resources and climate change. Implementation of programmes in these key priority areas will be in short, medium and long term.

Under the four themes, a number of programmes have been developed to implement the NCCIP. The Programmes have been designed to target the ultra poor, women, youth, and disadvantaged groups. The NCCIP will also ensure the participation of women and youths in the implementation of the programmes at community level. Specifically, a 50% inclusion of women in decision making institutions will be observed. A detailed NCCIP results and targets framework as well as a detailed budget is available from the Environmental Affairs Department on request. The following is a description of the four themes and programmes:

5.2 ADAPTATION



Mulunguzi Dam

Under adaptation, the following four programmes were identified: Integrated Watershed Management Programme; Improving Climate Change Community Resilience through Agriculture Production; Climate Change Proofing of Infrastructure Development; and Enhancing Disaster Risk Management.

5.2.1 Integrated Watershed Management Programme

a. Programme Objectives

This programme aims at reducing land degradation in targeted watershed⁵ areas for reduced soil erosion and improved soil productivity. The greater part of the population in the country depends on natural resources for their livelihood, hence the need to maintain its productive potential to foster economic development that is adaptive to climate change. There have been high rates of soil erosion and loss of water especially in mountains, where most sources are found, due to steep slopes, poor land use and management, landslides and other extreme events. This situation is aggravated by human interventions in the catchment areas. This, therefore, makes it essential to adopt corrective measures in order to fully benefit from, and sustain the catchment area, soil and water resources.

The specific objectives of the programme are:

- (i) To establish integrated land use management plans in priority watersheds and reservoirs with strong capacity on governance and monitoring systems;
- (ii) To improve forest and land cover on degraded areas of watersheds and reservoirs by promoting community forest restocking using a landscape approach; and
- (iii) To reduce sediment load in key selected reservoirs served by selected catchment areas in Malawi.

b. Programme Description

The first step for the programme is the integrated land use planning and detailed description of the target watershed/catchment (or sub-watersheds/catchment) to determine beneficiaries and specifications for intervention. Watershed management governance will be promoted in line with the Water Resources Act (2013). Local institutions (VNRMCs) will be strengthened and empowered to operate, combine and establish larger-scale catchment management committees.

In reducing the sediment load in the selected key reservoirs in order to achieve increased productivity, a catchment area management (CAM) plan will be prepared for all major rivers in the country to facilitate treatment of its erosion prone areas through implementation of the biological and engineering measures. Geographical Information Systems (GIS) will be promoted for economic and efficient conservation planning. In catchment area management, use of GIS will facilitate catchment area delineation, identification of vulnerable areas and prioritization of watersheds

⁵Refer to Annex III on priority watersheds. Find detailed information in the “*Integrated Assessment of Land Use Options for Climate Change Mitigation and Adaptation*” Addendum

A landscape approach will be used to restock and restore degraded areas following the actions in the integrated plans. An effective monitoring system will be established for measuring and validating improved land management practices. Critical watersheds will be afforested and various land management options will be promoted on smallholder farmland to enhance soil productivity while reducing vulnerability to climate change.

In order to harmonize the implementation of interventions, the programme will support the establishment of cross-sectoral watershed management standards and guidelines. Research and knowledge management will be promoted to improve the understanding on adaptive capacities for different communities, and improving soil productivity in fallow millet farming systems.

The Programme will also promote alternative livelihood projects to replace firewood and charcoal production as sources of income for the poor communities that mostly depend on community or protected forests. Value added irrigated agriculture and afforestation and reforestation will be some of the livelihood projects to be promoted.

5.2.2 Improving Climate Change Community Resilience through Agriculture Production

a. Programme Objectives

The main objective of this programme is to enhance sustainable and climate smart agricultural production to meet national and household food security, agro-processing and manufacturing raw material needs for both domestic and export markets.



Beekeeping by community groups in Village Forest Area

The specific objectives of the programme are:

- (i) To improve soil fertility and land use management in key areas in Malawi;
- (ii) To enhance sustainable irrigation farming systems in selected districts prone to climate change effects;
- (iii) To promote climate change adaptive agricultural technologies targeting climate change prone areas; and
- (iv) To increase household income through sustainable agricultural diversification in selected districts prone to climate change.

b. Programme Description



Intensive livestock rearing

In order to improve soil and water conservation, among others, the programme will intensify contour ridging, use of vetiver grass to reinforce marker ridges, agro-forestry and conservation agriculture in selected districts prone to climate change in Malawi. These efforts will be complemented by promotion of water harvesting technologies. Intensifying implementation of these activities is expected to arrest land degradation and better adapt to the effects of climate change (e.g. droughts).

In improving soil fertility and land use management, the programme will promote crop rotation and use of organic manure among other technologies. The programme will promote environmentally sound irrigated agricultural systems in order to enhance sustainable irrigation technologies.

Through intensification of agricultural research, the programme will promote adaptive strategies and technologies. These will include development of early maturing crop varieties, and breeding of drought tolerant crops and livestock. In order to increase household incomes, agricultural diversification will be promoted based on marketing and agri-business development principles. The programme will identify strategies for assisting households' access to capital or loan for supporting their investments. For example, agriculture enterprises such as cooking oil and fruit processing will be explored.



Crop production on residual moisture



Mushroom production

5.2.3 Climate Change Proofing of infrastructure Development

Climate Proofed Infrastructure is designed to withstand a changing climate system. This is necessary, in particular, for energy, telecommunication, transport and water sectors among others to ensure continuity of provision of services particularly during extreme weather events and disasters.

a. Programme Objectives

The main objective of the climate resilient infrastructure investment is to minimise the potential short and long-term disruptions and cost to the economy.



Broken bridge

The specific objectives of the programme are:

- (i) To develop transport infrastructure that will withstand climate change impacts;
- (ii) To improve telecommunication infrastructure stability in light of climate change;
- (iii) To increase energy infrastructure stability in light of climate change; and
- (iv) To improve sanitation infrastructure to deal with health challenges that arise as a result of climate change.

b Programme Description

Improvement of infrastructure resilience will achieve its objectives by undertaking more frequent and improved inspections of all existing protective infrastructure in order to assess its resilience in relation to its threshold to climate change. Prioritization of remedial works for high risk locations will be undertaken for both new and old infrastructure. For new infrastructure, the programme will facilitate incorporation of adaptation considerations into design and building. For old infrastructure projects, the



Improved road infrastructure

programme will retrofit and strengthen the infrastructure where appropriate.

In the sanitation infrastructure, management of sewer systems to reduce the impact of flooding will be promoted, particularly in urban areas.

In the existing infrastructure, their engineering designs shall be examined and strategies to protect them against floods will be promoted. Considerations to locate new infrastructure away from the flood zone areas will be taken into account in the development period. Control of surface water runoff using engineering conservation measures will be promoted.

5.2.4 Enhancing Disaster Risk Management

a. Programme Objectives

The aim of the Enhancing Disaster Risk Management (EDRM) programme is to reduce loss of life and property due to disasters associated with climate change.

The specific objectives of the programme include:

- (i) To enhance mainstreaming of climate change related disaster risk management in all sectoral planning processes in Malawi;
- (ii) To improve disaster risk management information system in the various sectors in Malawi;
- (iii) To improve community based early warning system for various sectoral development programmes and projects; and
- (iv) To strengthen preparedness capacity for effective response and recovery at all levels in Malawi.



Floods from overflowing river

b. Programme Description

The Disaster Risk Management Programme will enhance mainstreaming of disaster risk management by ensuring that sectoral budgets and work plans particularly for public organizations encompass appropriate issues of disaster risk management. In promoting the achievement of this objective, the programme will develop sectoral capacities to increase disaster risk management knowledge and skills. In the education sector, the programme will promote the review of primary, secondary and tertiary curricula to take on board issues of disaster risk management associated with climate change.

The programme will strengthen disaster risk management databases and enhance their utilisation by various interested parties, as a way of improving the disaster risk management information system. To ensure development, dissemination and utilization of tailor-made messages, a communication strategy will be developed.

In order to improve a community based early warning system, the programme will enhance weather and climate monitoring, prediction and information and knowledge management systems. Among others, the programme will also develop and modernise weather climate and climate change database, strengthen the production of weather and climate seasonal forecasts, expand weather observation points, develop capacities in weather and climate information and data collection, and promote a telecommunication system that targets the communities.

To strengthen preparedness capacities for effective response and recovery at all levels of societies affected by climate change, the programme will develop capacities at household, community and national levels by undertaking extensive disaster risk management campaigns to empower communities to respond to climate change related disasters. For example, flood protection structures such as dykes in problematic rivers will be promoted. Flood and drought forecasting and warning systems will be strengthened.

The Department of Disaster Management Affairs will also collaborate with relevant stakeholders in promoting the use of climate proof structures particularly in flood prone areas. Relevant policies and legislation will be reviewed to guide climate proofing of structures in the country.

5.3 MITIGATION INVESTMENTS

Among others, mitigation investments will focus on Enhancing Capacity for Low Emission Development Strategies (EC-LEDS) to pursue long-term, transformative development and accelerate sustainable, climate-resilient economic growth while slowing the growth of greenhouse gas (GHG) emissions. This is aimed at building local capacity (technical, analytical, and policy) and establishing a national GHG Inventory Management System. Three main investment areas have been identified under mitigation and these are: Reducing Emissions from Deforestation and Forest Degradation (REDD+); Waste Management and Pollution Control; and Enhancing Energy Saving Technology programme

5.3.1 Reduction of Emissions from Deforestation and Forest Degradation (REDD+)

a. Programme Objectives

The main objective of this programme is to increase carbon stocks and sinks and forest cover. The programme among others will look at afforestation and reforestation; sustainable forest management; and enhancement and conservation of forest carbon stocks.

The specific objectives of the programme are as follows:

- (i) To increase area under afforestation and reforestation;
- (ii) Reduce the area under bushfires in order to curb emissions as well as to allow the transplanted seedlings to grow;
- (iii) To improve livelihoods of communities who rely on forest and non-forest products; and
- (iv) To promote and regulate REDD+ activities.

(b) Programme Description

Considering the role that forests play in the economy of Malawi, REDD+ is designed to ensure that forests' contribution to the economy is enhanced. In moving towards increasing the area under afforestation and reforestation, the programme intends to increase forest cover by expanding tree replanting in the existing plantations and planting in new areas that are bare on customary, public and private land and promotion of natural regeneration.

To improve livelihoods of communities who rely on forest products, the programme will promote sustainable use while maximizing the realization of timber and non-timber products such as sustainable charcoal production, bee-keeping, mushroom production and indigenous fruit production.

To promote and regulate REDD+ activities, the programme shall operationalise the National Strategy on REDD+, develop National Forest Reference Emission level; develop National Forest Monitoring system; and develop models of estimating GHGs emissions and removals resulting from deforestation, afforestation and reforestation.

5.3.2 Waste Management and Pollution Control Programme

a. Programme Objectives

The Waste Management and Pollution Control programme aims at developing a proper waste management system that will reduce emission of methane from the waste disposal sites. Methane has a global warming potential, 21 times that of carbon dioxide, hence proper management of waste would significantly contribute towards climate change mitigation actions for Malawi as the country faces waste management challenges from industries, households and communities.

The specific objectives of the programme are:

- (i) To improve waste management in household, community and industrial surroundings in rural and urban areas in Malawi;
- (ii) To reduce solid waste burning in order to further reduce carbon dioxide, monoxides, sulphur dioxides etc., in the atmosphere; and
- (iii) To improve sanitation in household, community and industrial surroundings in rural and urban areas.



EAD

Liquid waste from poultry farm



EAD

Use of polluted water

b. Programme Description

The programme will improve waste management by intensifying sensitisation campaigns of rural and urban communities on sanitation and hygiene. It will also promote the utilization of improved waste disposal strategies. Proper waste generation, segregation at source and collection practices are crucial in effective waste management systems and require intensive sensitization.

In urban areas, construction of proper landfills with proper methane capturing technologies can be used to generate electricity that would be added to the national electricity grid. Installation of incinerators will also be promoted as well as strategies for recycling non-biodegradable or inorganic waste. Strategies for recycling household,

commercial and industrial solid wastes and reduction of individual sewer systems in residential and commercial areas will be promoted. New sewers, with minimal use of open waste stabilization ponds, in new urban areas will be constructed while old sewers will be rehabilitated. The programme will also promote municipal and industrial wastewater treatment in order to improve water quality and reduce the ecological debt.

In rural areas, use of properly managed waste disposal pits and subsequent harvesting of compost manure will be promoted. Households and communities will be sensitized to appropriately position toilets and pit latrines in relation to their water supply, living areas and food supply areas. Communities will be encouraged to establish biogas capturing pit latrines, such as Best-Loo by Bestobell Industry, as a way of reducing methane emission from pit latrines as well as an energy generation technology for household use.

Low cost water treatment projects will be promoted to improve water quality in rural areas. These technologies, if designed accordingly, can generate carbon credits on the voluntary carbon market or the CDM.

5.3.3 Enhancing Energy Saving Technology Programme

a. Programme Objectives

The Enhancing Energy Saving Technology Programme has been developed with an aim of improving energy efficiency and effectiveness in selected urban and rural areas in Malawi.



Roadside selling of firewood and charcoal

The specific objectives of the programme are:

- (i) To reduce emission of green house gases;
- (ii) To reduce the negative effects of the changing climate on energy development;
- (iii) To promote energy efficient technologies among the urban and rural communities in Malawi;
- (iv) To introduce alternative brick making technologies from the burnt bricks; and
- (v) To facilitate rural electrification for rural communities.

b. Programme Description

In contributing to the arrest of environmental degradation resulting from wanton cutting of trees for charcoal production and firewood for use by rural and urban communities, the Energy Saving Technologies' programme will promote renewable energy technologies alternatives such as the harnessing of solar and wind power, as well as construction of mini hydro power stations, to generate electricity for rural communities in selected districts that are heavily deforested. This is likely to reduce demand for firewood and hence wide use of biomass in these districts (it will also reduce the long distances women and girls have to travel to fetch firewood). In complementing these efforts, the Energy Saving Technologies' programme will also facilitate the expansion of rural electrification by ensuring that national electricity grid is extended to various trading centers and communities in Malawi.

The programme will identify heavily deforested areas expected to benefit from the national grid extension. The districts ranked the worst in environmental degradation will be targeted. In order to increase acceptability of the programme, communities in these selected districts will be sensitized on the benefits of their connectivity to the National grid. All these technologies, if designed accordingly, can generate carbon credits on the voluntary carbon market or the CDM.

5.4 CLIMATE CHANGE RESEARCH, TECHNOLOGY DEVELOPMENT AND TRANSFER

Climate Change Technology Development and Transfer for Adaptation, Mitigation and Capacity Development are the investment programmes to be promoted under this programme. These programmes are aimed at supporting the development and dissemination of the adaptation and mitigation technologies under the NCCIP.

5.4.1 Climate Change Adaptation Technology Development (CCATD)

a. Programme Objectives

The main objective of the Climate Change Adaptation Technology Development Programme is to improve Malawi's adaptation capacities to the changing climate. To achieve this objective, research projects focused on generating appropriate technologies

that allow Malawi adapt to climate change will be designed and implemented.

The specific objectives of the programme are:

- (i) To generate climate change adaptation technologies suitable for Malawi;
- (ii) To promote climate change adaptation technologies developed for Malawi; and
- (iii) To adopt and adapt CC technologies from other countries, regions etc.



Weather data collection

b. Programme Description

The Climate Change Adaptation Technology Development Programme will undertake a comprehensive stock taking survey to document technologies that have been developed in the past 10 years in various sectors on adaptation to the changing climate in Malawi. The evaluation will cover developments that have been promoted in the public and private sector organizations. It will also assess what has been the role of the civil society organizations and public extension services in strengthening the development of such technologies. The role of the development partners and public institutions in supporting the development of such technologies will also be explored. A comparison with the specific areas proposed for investments in adaptation will be made to identify the sub programme's research needs. Based on the needs assessment, the Climate Change Adaptation Technology Development Programme will make a deliberate effort to promote research projects whose main aim is to generate

technologies that enhance adaptation to climate change specific for Malawi. The technologies with significant contribution to strengthening catchment areas and soil and water conservation management, improvement of the community resilience in agriculture production and improvement in the community resilience in infrastructure development, and enhancing climate change disaster risk management, will be targeted.

Currently, Malawi uses technologies for managing climate change that are developed elsewhere particularly in the developed world. While they are being used, research under the NCCIP will intensively review them and develop some appropriate for Malawi conditions. Technologies that promote industrial waste recycling, river course management, production of drought tolerant crop and livestock enterprises, effective and efficient rain water harvesting and crop and livestock processing to improve the poor communities' livelihoods will be promoted. The programme will set up experiments and trials for implementing such research projects. The NCCIP adaptation research programmes will strongly interact with local universities with interest in developing technologies for adapting to climate change effects in the environment and climate change management sectors. In the subsequent development stages of the climate change adaptation technologies, the programme will promote on site demonstrations to ensure that the generation of technologies is participatory and enhances their uptake immediately by its beneficiaries.

5.4.2 Climate Change Mitigation Technology Development (CCMTD)

a. Programme Objectives

The Climate Change Mitigation Technology Development Programme is expected to improve Malawi's mitigative capacity to climate change. The mitigation research projects will focus on generating appropriate technologies to enhance mitigation in climate change.

The programme's specific objectives are:

- (i) To identify climate change mitigation technology needs for Malawi;
- (ii) To generate climate change mitigation technologies suitable for Malawi;
- (iii) To promote climate change mitigation technologies developed for Malawi; and
- (iv) To adopt and adapt CC mitigation technologies from elsewhere.

b. Programme Description

The Climate Change Mitigation Technology Development Programme will undertake a review of existing technologies either developed in Malawi or within the region in the past 10 years but vital in mitigating climate change effects. All research projects performed by the public and private sector organizations will be reviewed articulating the roles of the civil society organizations and public extension services. The study will also assess financing and technical support provided by the development partners and public institutions. The NCCIP investment areas in the mitigation research sub-

programme will be compared with findings of the study to determine mitigation research needs.

Based on the needs assessment results, the research projects whose main aim will be to generate technologies that enhance mitigation in climate change management will be identified and implemented. Those technologies with significant contribution to afforestation and reforestation, waste management and pollution control and enhancement of clean development mechanisms (CDM) and energy saving technologies will be emphasized. For example, technologies that improve utilisation of afforestation and reforestation products, improve energy efficiency and waste disposal will be promoted.

Currently, Malawi uses technologies for mitigating climate change effects that are developed elsewhere particularly in the developed world. While they are being used, research under the NCCIP will intensively review them and develop some appropriate for Malawi conditions. Experiments and trials will be the main strategies for undertaking such research projects. In its subsequent technology development stages, the programme will promote on site demonstrations to increase adoption of the technologies through community participation.

The NCCIP mitigation research programmes will strongly interact with local universities and other research institutions with interest in developing technologies for mitigating climate change effects in the environment and climate change management sectors.

5.4.3 Adaptation and Mitigation Technology Transfer (AMTT)

a. Programme Objectives

The main objective of AMTT will be to improve dissemination of climate change technologies generated from climate change adaptation and mitigation research projects.

The programme's specific objectives are:

- (i) To develop a comprehensive climate change technology dissemination strategy suitable for Malawi; and
- (ii) To promote climate change technology dissemination strategy developed for Malawi.

b. Programme Description

The Adaptation and Mitigation Technology Transfer Programme will review all the existing climate change technology dissemination strategies available in the various sectors in Malawi. This will be done in order to identify their strengths, weaknesses, opportunities and threats (SWOT). The review will encompass all communication strategies in the public and private sector organizations involved in climate change management. Public, private, development partner and civil society organizations that provide financial and technical support to communication strategies will be identified.

Based on the SWOT analysis of the existing communication strategies, research projects to develop cost effective strategies will be developed. These projects will use the developed technologies to test the communication strategy suitability to technology transfer. The programme will then promote strategies that are cost effective and robust in transferring climate change technologies to various stakeholders.

5.5 CAPACITY DEVELOPMENT IN CLIMATE CHANGE



Capacity building

a. Programme Objectives

Capacity Development in Climate Change is expected to improve the management ability of organizations involved in climate change in Malawi. Projects on Capacity Development in Climate Change Programme will focus on the organizations' capacities to plan, implement, monitor and evaluate climate change projects. Capacity development in Climate Change will take a holistic approach, encompassing the human, institutional, and the policy environment aspects.

The programme's specific objectives are:

- (i) To profile the existing climate change capacities available in Malawi;
- (ii) To identify climate change capacity needs for Malawi;
- (iii) To increase knowledge and skills of various organizations in climate change management;

- (iv) To improve material, infrastructural and capacities necessary for climate change management in Malawi; and
- (v) To establish and operationalise coordination and resource mobilisation mechanisms.

b. Programme Description

The Capacity Development in Climate Change Programme will establish areas of deficiency in knowledge and skills, material and infrastructure needed to enhance climate change management in Malawi as well as policy reforms needed in the CC sector to make it more efficient and effective in responding to existing challenges. Specific needs assessments will be done in areas of deficiency. Areas of emphasis will be those the NCCIP has targeted under adaptation, mitigation, technology development and technology transfer. The programme will provide training in climate change related fields (climate change sciences, economics of climate change, climate change management, climate change financing, policy and planning).

The NCCIP Capacity Development programme will also provide special support to local universities' innovative programmes on environment and climate change management. Short and long term trainings in the areas of climate change mitigation, adaptation, technology development and technology transfer will be provided. For short-term trainings, the programme will target study tours, training of trainers (TOTs), seminars, workshops and refresher courses as a quick way of enhancing knowledge and skills for the organizations involved in the climate change management projects. For long-term trainings, the programme will target tertiary education programmes such as bachelors, masters and doctor of philosophy degrees. These degree programmes will be offered to those working in the climate change management sector. This programme will also support local universities providing these degrees.

Since the country's primary, secondary and tertiary education system does not currently provide comprehensive training in climate change, most of these trainings will be undertaken in overseas academic institutions particularly those that provide special training in climate change management. The programme will also support the review and development of curricula for primary and secondary schools, as well as colleges and universities. This will enable the education institutions to incorporate climate change related fields such as climate science, economics of climate change, climate change management, climate change financing, Clean Development Mechanisms and new market mechanisms, REDD+, climate change governance issues into their curricula.

The programme will also intensify campaigns to raise awareness using various strategies such as information, education and communication materials, workshops, seminars and stakeholder meetings



EAD

Animal husbandry is impacted by Climate Change

CHAPTER 6: INVESTMENT BUDGET

6.1 INTRODUCTION

Chapter 5 has detailed the investment priorities, comprising four themes and the components under each theme. The total cost of carrying out these programmes has been evaluated over the six years from 2013/14 through 2018/19.

Costing of the NCCIP was based on unit cost measurement of implementing the activities. The unit costs were derived from the estimated current levels of the cost of the activities, converted to US dollars at an exchange rate of 320. It is assumed that the US dollar cost of the activities will remain the same for the duration of the current NCCIP implementation period i.e. the current USD cost of activities will purchase the same amount of goods and services in the delivery of future activities.

6.2 TOTAL COST OF THE NCCIP

The total cost over the six years, US\$ 954.5 million, is summarised first by theme in the pie chart below and then by component in Table 6.1. This level of investment in climate change averages US\$159.1 million per year, which corresponds to about 2% of Malawi's GDP (based on 2011 GDP) which is in line with international climate change investment norms.

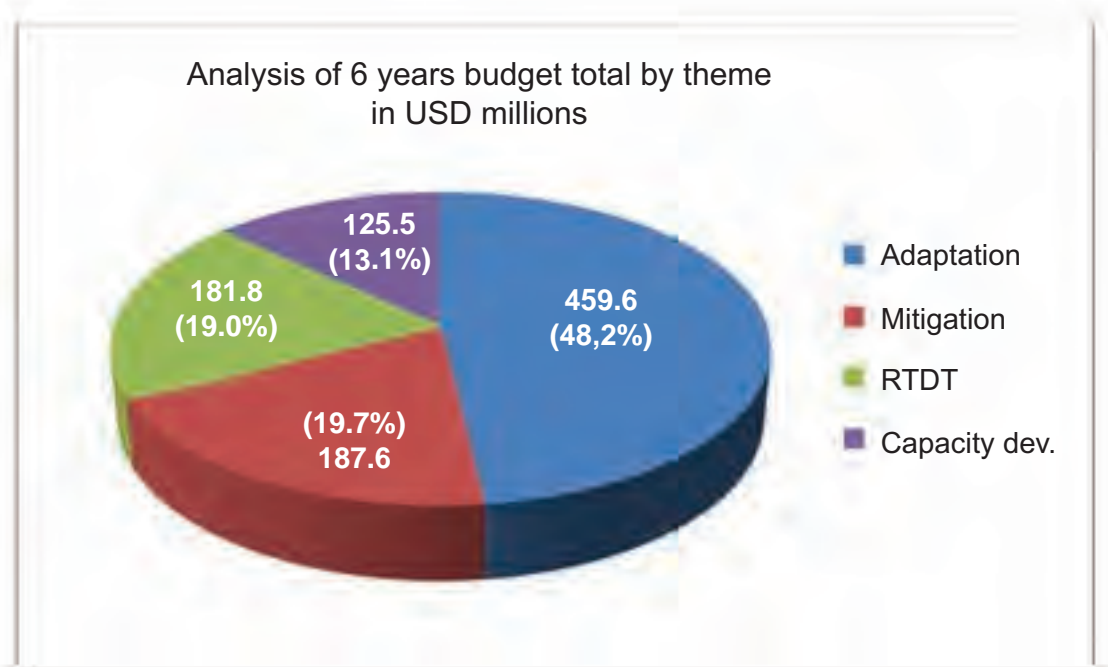


Table 6.1: National Climate Change Investment Plan Budget: Six Year Summary

	US \$millions
Theme 1: Adaptation	
1.1 Integrated Watershed Management Programme	230.3
1.2 Improving climate change community resilience through agriculture production	100.4
1.3 Climate change proofing of infrastructure development	16.1
1.4 Enhancing disaster risk management	112.8
	459.6
Theme 2: Mitigation	
2.1 Enhance Reduction of Emissions from Deforestation and Forest Degradation (REDD+)	55.8
2.2 Waste management and pollution control programme	71.9
2.3 Enhancing energy-saving technology programme	59.9
	187.6
Theme 3: Climate Change Research, Technology Development and Transfer	
3.1 Climate Change Adaptation Technology Development (CCATD)	90.2
3.2 Climate Change Mitigation Technology Development (CCMTD)	44.7
3.3 Adaptation and Mitigation Technology Transfer (AMTT)	46.9
	181.8
Theme 4: Capacity Development in Climate Change	
4.1 Improved management ability of organizations involved in climate change in Malawi	125.5
Grand Total	954.5

6.3 COMPARISON WITH CURRENT INVESTMENT

Chapter 4 provided some information about current levels of investment in Climate Change. Table 4.2 showed that GoM had a budget in 2012/13 equivalent to about \$50 million, though this total covered not only climate change but the whole Environment, Natural Resources and Climate Change sector. Information about the Climate Change element of this figure is not available. Also, more information is needed about financing provided by INGOs, NGOs, FBOs and the private sector, as well as about those funds from DPs and donors that may not be included in the GoM budget.



Parliament Building

CHAPTER 7: INSTITUTIONAL ARRANGEMENTS

7.1 NATIONAL INSTITUTIONAL ARRANGEMENTS FOR SECTORS

As described above, the current Government policy on management of projects and programmes is to promote the use of existing country systems in line with the Paris Declaration on aid effectiveness and the Accra Agenda for Action. For this reason, programmes and projects under the NCCIP will be coordinated by the Ministry mandated with environment and climatic change management, the MoECCM.



Capital Hill Offices

Meanwhile, implementation of the NCCIP projects and programmes will be by various entities, including MoECCM itself, other line Ministries, INGOs, local civil society, private sector, and development partner organizations.

At the national level, the Malawi Government has set up Sector Working Groups (SWGs) responsible for the management of each sector. The SWGs are used as a forum for negotiations, policy dialogue and agreement of sectoral plans and budget undertakings amongst the public, development partners, civil society organisations (CSOs) and private sector. SWGs are also used as a forum for reviewing progress of the sectoral projects and programmes. Climate Change is a sub-sector of the Natural Resources sector, which has a SWG² overseen by the Principal Secretary (PS) for MoECCM.

7.2 CLIMATE CHANGE SUB-SECTOR

The Climate Change Sub-Sector already has an active coordination structure, consisting of the National Steering Committee on Climate Change (NSCCC). Though its work is overseen by the Natural Resources SWG, NSCCC has a role which is substantially equivalent to a SWG, being a forum for negotiations, policy dialogue and agreement of sub-sectoral plans and budget undertakings amongst the various stakeholders.

The NSCCC is chaired by the PS for MoEPD. Public sector members of the NSCCC include PSs for Ministry of Economic Planning and Development (MoEPD), Ministry of Irrigation and Water Development (MoIWD), Ministry of Agriculture and Food Security (MoAFS), Ministry of Lands and Urban Development (MoLUD), Department of Disaster Risk Management (DDRM), Ministry of Local Government and Rural Development (MoLGRD), Ministry of Transport and Public Works (MoTPWs), Ministry of Health (MoH) and Ministry of Energy and Mining (MoEM). Other members include representatives from development partners, civil society and private sector.

The NSCCC will continue to provide strategic direction, inter-ministerial coordination and policy guidance. It will also oversee implementation of policy decisions, endorse consolidated annual work plans and budgets, and monitor progress. It will meet on a quarterly basis.

The NSCCC is supported by the Government of Malawi-Donor Working Group on Climate Change. This GoM-Donor group assists NSCCC with its coordination and oversight role and additionally enhances donor coordination and also networking with CC stakeholders. The chair of the GoM-Donor group is the Chief Secretary or his representative and the co-chair is the UN Resident Coordinator.

⁶ The NRSWG comprises the National Steering Committee Technical Working Group on Environment (NSCE), National Steering Committee on Forestry Management (NSCFM), National Steering Committee on Meteorological Services (NSCMS).

Reporting to the NSCCC is currently one TWG, the Technical Committee on Climate Change (NTCCC). The NTCCC membership includes representatives from various Government entities as well as civil society, DPs and private sector.

As the workload of the NTCCC is expected to increase in response to the additional CC projects, programmes and funding that will result from this NCCIP, the work of the NTCCC will be eased by creating a number of Expert Working Groups (EWGs) reporting to the NTCCC. These EWGs could include one for each of the four CC themes, i.e. (i) Adaption (ii) Mitigation (iii) RTDT and (iv) Capacity Building, although initially it may be appropriate to keep the third and fourth themes under one EWG. Currently, there are already two EWGs, one on REDD+ and another on CDM. In addition, one or more further EWGs are likely to be required on cross-cutting matters, such as processes for sub-sector M&E (monitoring and evaluation) and reporting. The NTCCC will decide whether and when to form any of these new EWGs and will confirm the Terms of Reference of each EWG.

Each proposal for a new national (or multi-district) CC project or programme will be presented for review to the corresponding theme EWG. As part of their review, the EWG will consider other related programmes and projects, (previous, current and proposed), so that the EWG can make recommendations to implementers, and where appropriate to the NSCCC, not only on content, but also on matters of coordination, addressing any gaps, overlaps or misunderstandings between the various stakeholders. In addition, theme EWGs will review implementation progress as well as outcomes and lessons learnt.

The NSCCC, GoM-Donor group and NTCCC are supported by the Climate Change Secretariat based in MoECCM. The secretariat is currently staffed by officers of the Environmental Affairs Department (EAD) of MoECCM, and with technical assistance from UNDP. The Secretariat will continue to have a key role in enabling both NSCCC and new CC EWGs to fulfil their responsibilities. For this reason, a key function of the NSCCC will be to liaise with the Director of EAD in overseeing the work done by the Secretariat in support of NSCCC, NTCCC and its EWGs, recognising that a strong performance by the Secretariat is essential to the successful implementation of the NCCIP and that the work of the Secretariat is visible to all CC stakeholders.

The work of MoECCM is overseen by the Cabinet Committee on Environment and Natural Resources and supported by the Parliamentary Committee on Agriculture and Natural Resources. Figure 7.1 provides a diagrammatic view of the national level institutional arrangements.

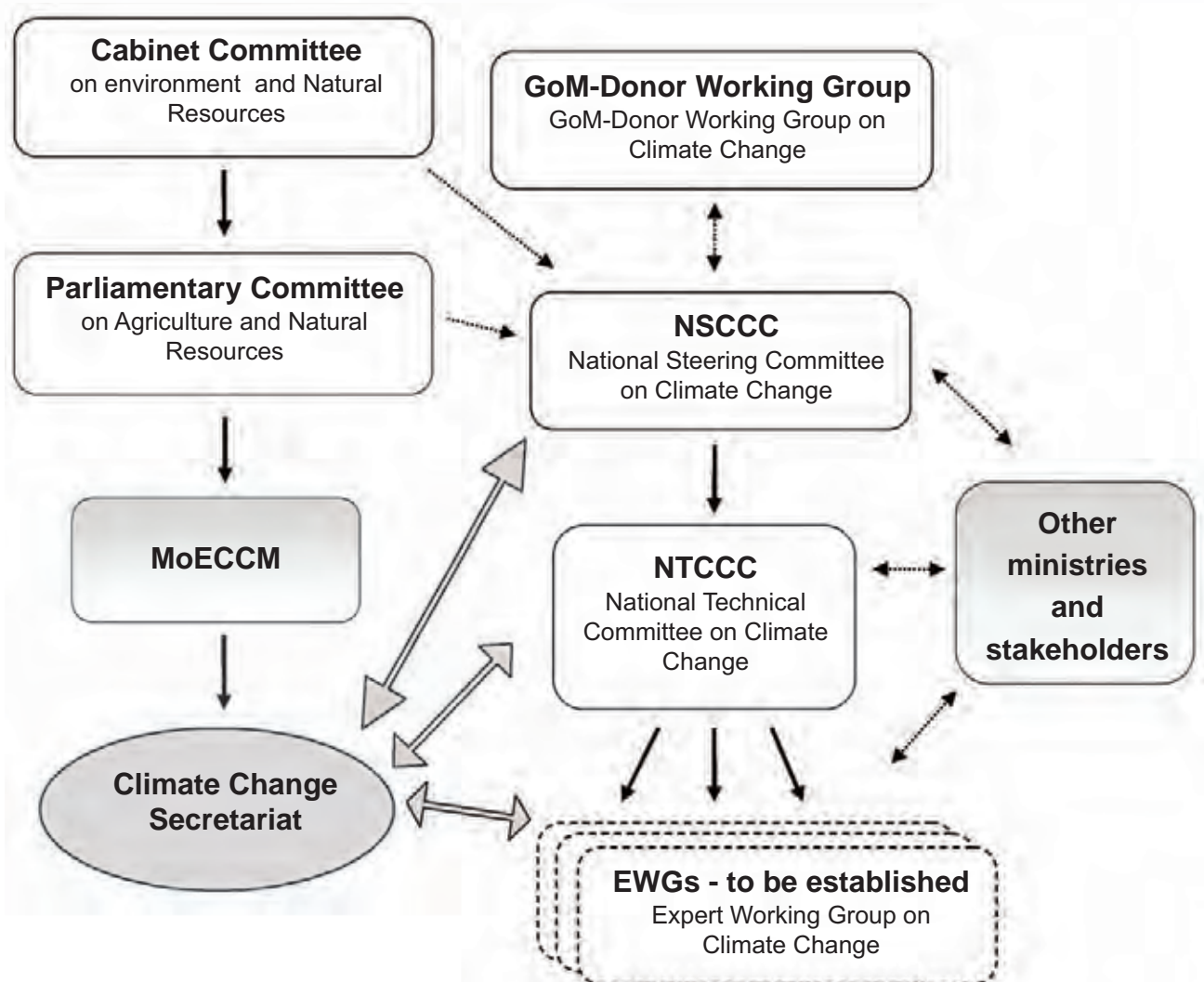


Figure 7.1: Inter-Institutional Coordination of Climate Change Management

7.3 DISTRICT LEVEL INSTITUTIONAL AND IMPLEMENTATION ARRANGEMENTS

The Government of Malawi adopted a Decentralization Policy in 1996 to devolve authority for managing development projects and programmes at district level. The District Council is the focal point for district level policy and programme development, implementation, monitoring and evaluation. All projects and programmes under the NCCIP at District level will be overseen by the District Council for strategic direction, inter-sectoral coordination and policy guidance, overseeing of implementation of policy decisions, endorsement of consolidated annual work plans and budgets, and monitoring

of progress.

The District Executive Committee (DEC), headed by the District Commissioner (DC), will provide overall leadership of the NCCIP at the district level. The DEC is composed of technical staff from Government Departments, civil society organizations and other stakeholders. The DEC will provide technical direction in the management of NCCIP programmes and projects. It is directly responsible for facilitating formulation and implementation of the District Development Plans. Under the NCCIP, each DEC has sub-committees for the key sectors including the District Environmental Sub-Committee (DESC) which is responsible for issues of environmental management, CC, forestry and other natural resources. The secretariat to the DESC is in the Directorate of Planning & Development that is able to ensure that CC issues are mainstreamed throughout the District's programmes.

The DESC will be responsible for preparing consolidated Annual Work Plans and Budgets for review and approval by the DEC and in turn by the District Council. It will also be responsible for conducting physical progress and policy reviews in addition to facilitating the formulation of new policies.

Implementation of NCCIP projects and programmes at area level will be channelled through the Area Development Committee (ADC) headed by the Traditional Authority. At village level, it will be through the Village Development Committee (VDC) headed by the Group Village Headmen (GVH). In cases where sector specific committees for particular projects exist, implementation of the projects will be done by the ADC and VDC in collaboration with the committee. Communities overseen by the GVH will not only be responsible for implementation of the NCCIP projects



Area Development Committee meeting

and programmes but also beneficiaries.

7.4 INSTITUTIONAL COORDINATION MECHANISMS

Because of the multi-sectoral nature of the impacts of climate change, tackling the impacts from different angles in a synergistic and coordinated way will be necessary. In enhancing coordination among various actors, the NCCIP will promote partnerships among DPs, CSOs, Private sector and Government.

For community based NRM projects, early warning systems, monitoring of environmental indicators and payment for environmental service projects, the NCCIP will promote Co-Management arrangements between Government and communities.

In enhancing Private Sector, DPs and CSOs partnerships with communities, the NCCIP will promote the private-social partnerships aimed at driving community development projects and programmes such as REDD+. Effective and efficient extension systems will be promoted in order to benefit from the private-social and public-private partnerships.

7.5 CONCLUSION

The multi-sectoral nature of climate change issues requires that at the outset, institutions for coordination and implementation are outlined to promote synergies and remove duplications. The aim is to ensure that existing institutions are utilized and adapted where necessary. Establishment of new institutions will be done where there is an observed need.

CHAPTER 8: FINANCING OPPORTUNITIES AND MECHANISMS

8.1 INTRODUCTION

This chapter discusses potential financing opportunities available globally, regionally and nationally for climate change investments from which the NCCIP can benefit. It also highlights agents and channels of financing particularly those established by the UNFCCC. The chapter then proposes a National Climate Change Fund. The main sources available are as outlined below.

8.2 GLOBAL FINANCING OPPORTUNITIES

Financing adaptation to climate change impacts is a significant element of climate change management in developing countries. There are, however, fewer studies that estimate the costs of adapting to climate change impacts globally. One such study was done by the World Bank in 2008. The World Bank estimated that between 2010 and 2050, the annual cost for adapting to climate change in the Sub Saharan Africa (SSA) will be at least US\$18 billion, not including funding necessary to place SSA countries on a low-carbon development pathway. In the context of meaningful mitigation actions and transparency in implementation, developed countries committed to a goal of mobilizing jointly US\$100 billion per year by 2020 to address the needs of developing countries. This funding will come from a variety of sources, public and private, bilateral and multilateral including alternative sources of finance (Refer to Annexes IV and V).

The Green Climate Fund was established in Cancun, Mexico to assist developing countries with preparation and implementation of programmes, projects, policies and activities on climate change. Countries have already started making pledges towards the start-up costs of the Fund, and Green Climate Fund will be a channel for mobilization of US\$100 billion a year in aid to poor, vulnerable countries by 2020. The Federal Republic of Germany, United Kingdom, France, Denmark, Sweden and the European Union Commission announced concrete finance pledges for the period up to 2015, totalling approximately six billion United States dollars (US\$6 billion).

“Global Climate Finance” is the name given to resources committed to help developing countries to carry out mitigation and adaptation actions to the impacts of climate change (see details in Annex VI). These finances are channelled through multilateral and bilateral organisations. Examples of multilateral funds include the Global Environment Facility (GEF) and Climate Investment Funds (CIF).

Figure 8.1 presents an overview of the global architecture of public finance, and highlights the complexity of the current climate finance landscape. Detailed explanation of each fund follows.

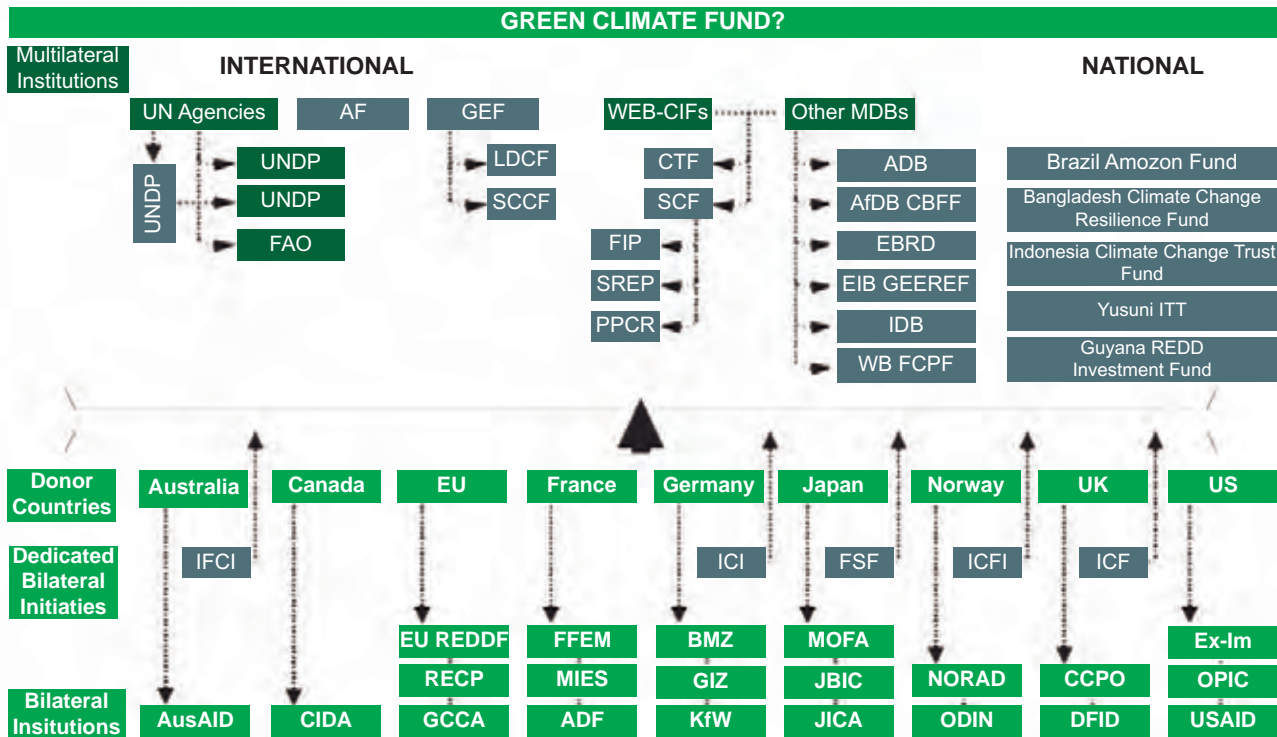


Figure 8.1: Global Climate Financing Mechanisms

8.2.1 Multilateral channels for global climate finance (Refer to Annex VII)

a. The Global Environment Facility

The Global Environment Facility (GEF)⁶ was established in 1991 to support development and implementation of projects in climate change. The fund supports projects in the areas of biodiversity, international waters, ozone layer protection, persistent organic pollutants (POPs), and land degradation. The GEF administers the Least Developed Countries Fund (LDCF) and Special Climate Change Fund (SCCF). The LDCF has disbursed \$108 million and the SCCF \$80 million since 2002. For least developed countries such as Malawi, adaptation programmes such as the NAPAs fall under the LDCF.

⁶The GEF was established in 1991 and has the longest track record on environmental funding. 39 countries pledged and deposited just over \$1 billion to the GEF during its fourth replenishment (2006 -2010), most of which has been approved and disbursed to projects. 21 donor countries deposited \$889 million as part of the GEF's fifth replenishment (GEF 5) in 2010. GEF 5 has approved a total of \$79 million for 7 mitigation projects, and \$1 million has been disbursed as of November 2011. GEF resources are allocated on the basis of a framework that considers the impact of dollars spent on environmental outcomes, but also ensures all developing countries have a share of the funding.

b. Adaptation Fund

The Adaptation Fund (AF) of the Kyoto Protocol is financed through a 2% levy on the sale of emission credits from the Clean Development Mechanism and became operational in 2009. It has a total capital of \$250 million. The AF allows developing countries⁷ direct access to finance through National Implementing Entities (NIEs) that meet agreed fiduciary standards such as a share of the proceeds, currently put at 2%, of the certified emission reductions (CERs) from certified project activities undertaken.

CERs issued for most projects, is the main source of revenue for the Adaptation Fund (AF). Table 8.1 describes the GEF and AF sources of finance for climate change adaptation.

Last Developed Country Fund	Special Climate Change Fund	The Adaptation Fund
Available: ~\$537m Funding Approvals \$346m (Only for LDCs)	Available: \$180m Funding Approvals \$110m (For all non-annexes 1 Parties)	Available: \$211m Funding Approvals \$21m (For all Parties to Kyoto Protocol)
Source of Funding Replenished Voluntarily Donor Contributions 2010–2014 Expectation \$500m	Source of Funding Replenished Voluntarily Donor Contributions 2010–2014 expectation \$500m	Source of Funding CER Sales 2010–2014 Expectation \$317-434m
Governance GEF LDCF Council <i>Stable State</i>	Governance GEF LDCF Council <i>Stable State</i>	Governance AF Board (Parties) <i>Fluid State</i>

Table 8.1: GEF and AF sources of finance for climate change adaptation.

As of December 2012 Malawi has accessed about \$20m from the LDCF/GEF funds. These have been used to support several programmes and projects including the Climate Adaptation for Rural Livelihoods and Agriculture Project, Climate Proofing Local Development gains in Rural and Urban areas of Machinga and Mangochi, Strengthening Climate Information and Early Warning System for Climate Resilient Development and Adaptation to Climate Change, The Implementing Urgent Adaptation Priority Through Strengthened Decentralized and National Development Plans

⁷ Developing countries represent the majority of seats on its governing committee.

c. Climate Investment Funds

The Climate Investment Funds (CIFs) were established in 2008, and are administered by the World Bank in partnership with regional multilateral development banks including the African Development Bank (AfDB), the Asian Development Bank (ADB), the European Bank for Reconstruction and Development (EBRD), and the Inter-American Development Bank (IDB). The CIFs consist of a Clean Technology Fund that receives the majority of these funds (\$4.1 billion), a Strategic Climate Fund that includes the Pilot Programme for Climate Resilience (PPCR), the Forest Investment Programme (FIP), and the Scaling-Up Renewable Energy Programme for Low Income Countries (SREP).

d. Multilateral Development Banks

The regional Multilateral Development Banks (MDBs) increasingly incorporate climate change considerations into their core lending operations. Most of them also administer climate finance initiatives with a regional or thematic scope. Examples include Forest Carbon Partnership Facility (FCPF) established by the World Bank; Congo Basin Forest Fund (CBFF) established by the African Development Bank (AfDB); and EU Global Energy Efficiency and Renewable Energy Fund (GEEREF).

8.2.2 Bilateral Finance Channels for Global Climate Finance (GCF)

A large and growing share of climate finance is spent through bilateral development institutions (Refer to Annex VIII). This is estimated to be around \$24.6 billion per year (Buchner *et al.* 2011). For example, Japan established the Hatayoma Initiative (HI) (totaling US\$15 billion) and Cool Earth Initiatives (CEI), a five-year fund (totalling \$10 billion). Apart from bilateral, HI also uses multilateral and private sector as disbursement channels. CEI supports efforts in developing countries to combat climate change.

Norway and Denmark supported the *UN-REDD programme* to pool the capacities of the UNDP, UNEP, and the Food and Agriculture Organization to help forest rich countries reduce emissions from deforestation and degradation. In 2008, the UN-REDD program was made operational. Representatives of Civil Society and Indigenous People's Organizations have a formal voice in the governance of UN-REDD. Financial flows for REDD+ are given in Annex IX.

In 2011, Germany approved and disbursed \$547 million through the International Climate Initiative (ICI). The ICI is partly funded through the sale of national tradable emission certificates. The UK established an International Climate Fund whereas Norway established an International Forest Climate Initiative (IFCI) which in 2010 managed \$676 million as contributions to national trust funds for REDD+. The IFCI has heavily supported Brazil, Indonesia, Tanzania, and Guyana climate change programmes.

Australia has also established the International Forest Carbon Initiative (IFCI) which disbursed US\$48 million for REDD+ projects up to August 2010. The IFCI increases carbon monitoring and accounting capacity. Papua New Guinea and Indonesia are some of its main recipients.

There is, however, limited transparency and consistency in reporting of bilateral financing for climate change.

8.2.3 Carbon Emission Trading (CET)

Opportunities exist in the Carbon Emission Trading scheme for developed countries with an emission reduction commitment or private companies within developed countries, to purchase credits from projects in developing countries under the Kyoto Protocol. Malawi is eligible to engage in the Clean Development Mechanism, one of the CET initiatives under the Kyoto Protocol. The benefits that developing countries accrue from these CET mechanisms include:

- (i) Additional inflow of investment to multiple sectors and scales;
- (ii) Increased employment opportunities;
- (iii) Emphasis on environmentally friendly technology;
- (iv) Improved standard of living in rural areas;
- (v) Cleaner and safer environment; and
- (vi) Mitigation and adaptation to the effects of climate change.

The country is also engaged in the voluntary carbon market through carbon sequestration (reforestation and afforestation) projects. Countries that did not ratify either the first or the second commitment period of the Kyoto Protocol (for example, the USA, Japan, Canada, the Russian Federation) but are signatory to the UNFCCC can participate on the voluntary market. Reduced Emissions from Deforestation and Forest Degradation (REDD+) initiatives will be traded on the CET once its operation platform is finalized by the international negotiating team under the UNFCCC.

Government institutions, private sector organization, local financing institutions and individuals are encouraged to invest in CET initiatives and benefit from the global carbon market as a measure to mitigate against effects of climate change.

8.3 MALAWI'S FINANCING OPPORTUNITIES

Mobilization of climate change financial resources, their delivery and institutional arrangements are key elements in the design and implementation of an overall investment framework to support actions on climate change adaptation, mitigation, technology development and transfer, and capacity building. The rest of this chapter recommends financial resource mobilisation strategies for climate change programmes and actions in the country: Financial flows from the cooperating partners; Stimulating the private sector to participate in climate change management; Promoting carbon financing; and Establishing a National Climate Change Fund.

The main focus is to coordinate the implementation of CC efforts and prudent utilization of finances avoiding gaps and overlaps. Figure 8.2 summarises the sources of funds. The main aim is to direct all efforts towards delivery in the areas of support identified in this investment plan as well as modalities for funds disbursement, coordination of adaptation and mitigation programmes in Malawi.

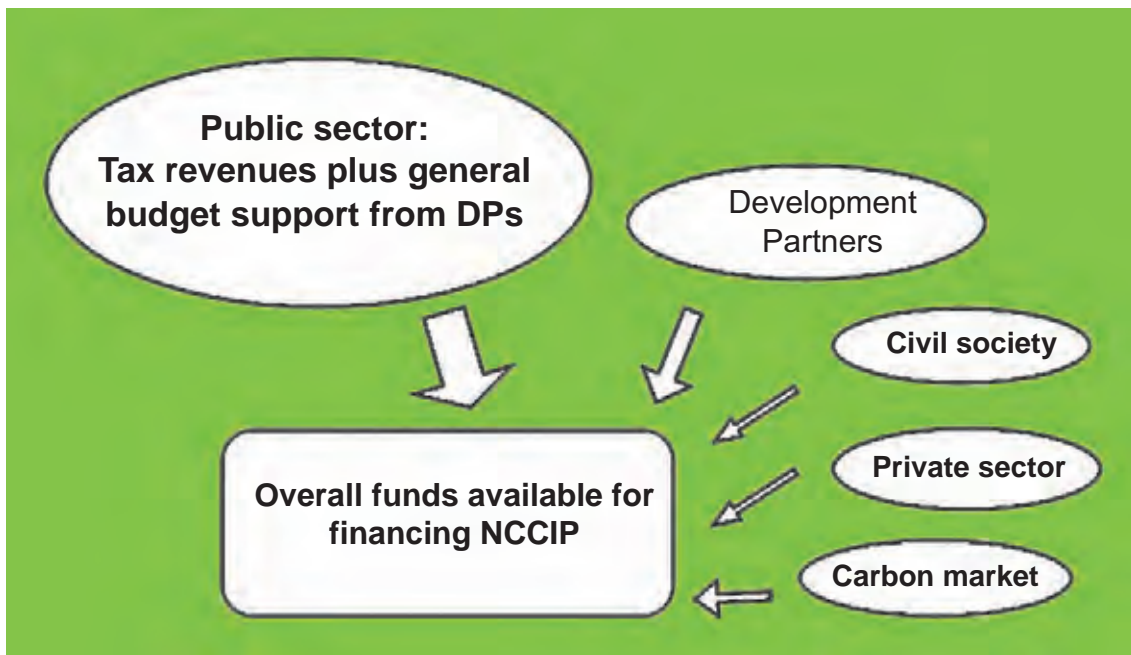


Figure 8.2 Sources of funds for Climate Change in Malawi

8.3.1 Public Sector Financing Opportunities

Tax revenues accruing to Government, supplemented by some general budget support from development partners, provides the largest source of funding to implement the NCCIP. MoECCM, with its the National Steering Committee on Climate Change (NSCCC) and the Climate Change Secretariat will lobby central government, line ministries and parliament to prioritise all climate change programmes and in annual budgeting by each sector involved, in both development and recurrent budgets. In ensuring sustainability, effectiveness and ownership of the climate change investment plans and programmes, the NCCIP will sensitise the various sectors to formulate projects and programmes for incorporation in their budgets. The NCCIP will demand all sectoral development projects associated with climate change to have a climate change component as a way of climate proofing development programmes. This will ensure that climate change issues are mainstreamed in all the development programmes. In addition consideration should be given to drawing from experience in the HIV/AIDS

and gender sectors of requiring each ministry and department to allocate a minimum percentage of recurrent budgets to climate change-related activities.

The possibility of increasing resources allocated to climate change proofing programmes will greatly increase over time if there is confidence that these resources will be spent prudently, be quickly accessed and will produce results as this is critical for building mutual confidence needed to mobilize climate change finance.

8.3.2 Harnessing Financial Flows from Development Partners

The main role of development partners in climate change management is to provide financial assistance, guidance and technical support. Climate financing is critical to catalysing efforts in the country to strengthen climate change resilience, curb greenhouse gas emissions and support sustainable development. There are a number of interventions from various development partners and donors on climate change in Malawi.

The various development partner funding opportunities have been described above. The coordination of the same is problematic since they are spread in various sectors of the economy. Hence, the NCCIP will aim at strengthening efforts of the development partners with interest to support climate change by providing a framework through which they can pool their finances which will aid government in coordinating and monitoring climate change activities effectively.

A key function of this NCCIP is to facilitate the mobilisation of funds from DPs. However, an issue for Malawi is the in-country capacity for robust fiduciary management, including the timely use of funds. The National Climate Change Fund, described below, addresses this issue.

8.3.3 Civil Society

Many international NGOs that have established offices in Malawi are active in climate change implementation, frequently working through local NGOs, FBOs and CBOs. Some of the funds they bring to Malawi originate from DPs in the countries where INGOs are fund-raising, while a large proportion may be raised from members of the public in developed countries. Much of the funds of INGOs are spent at district and community levels. In addition, some local civil society organizations directly attract funds from outside Malawi, for example, local FBOs that are associated with international FBOs that do not have a Malawi base. The NCCIP aims to facilitate increase in climate financing from civil society.

8.3.4 Private Sector

The local private institutions have also been mobilized to support the implementation of the national development agenda including activities on climate change and environment. Companies such as Carlsberg Breweries, Airtel Malawi, Illovo, NBS Bank, WICO, VIPLY and others have started funding and undertaking activities related

to climate change and environmental management, such as planting trees. However, such support is largely perceived as corporate social responsibility.

In addition, some private sector institutions may wish to invest in climate change projects to enhance their profits. In these circumstances the amount of investment may be high. One current example is the investment of tobacco-related companies in establishing and managing tree plantations to create low-cost and sustainable supplies of wood fuel for tobacco curing. Another example would be investment by private energy companies in electricity supply.

The NCCIP will, therefore, encourage private sector financing in climate change either alone or through Public Private Partnerships (PPP). The PPP will also provide an opportunity to speedy, efficient and cost effective delivery of projects in the NCCIP. The NCCIP will facilitate linkages between communities and companies developing cleaner technologies. In order to enhance coordination, the NCCIP will lobby for creation of an association for the private sector on climate change.

A further element of private sector financing comes from carbon levies and taxes on vehicles fuel and electricity prices. Such taxes, if seen to result in suitable climate proofing projects, can be used to raise public awareness of the need for each of us to be part of the response to climate change.

Carbon Market Financing is a further source for Private Sector funding which is considered separately below.

8.3.5 Promoting Carbon Market Financing



Lake Chilwa DANIDA Project

Hillside Miombo woodland

Carbon markets offer important opportunities for supporting new technologies and leveraging private investment, while ensuring environmental integrity. Strong commitments to the implementation of the climate change convention, UNFCCC, in domestic mitigation and development of low carbon growth pathways (through Nationally Appropriate Mitigation Actions – NAMAs) and the introduction of new public instruments based on carbon pricing, provide an avenue that will also be explored by the NCCIP for mobilizing climate financing, both public and private.

The investment plan will encourage the private sector to develop mitigation projects that could qualify for the Clean Development Mechanisms (CDM) to generate further resources for adaptation programmes. It should be noted that higher carbon prices feed through into multiple public sector instruments (such as revenues from the auctioning of emissions allowances, domestic carbon taxes, international levies and emission trading schemes), carbon offset markets and effective prices for carbon abatement that influence investment patterns. The higher the carbon price, the larger the revenue and the stronger the price signal to reduce emissions. Conversely, the lower the carbon price, the smaller the revenue and the weaker the price signal to reduce emissions. At present (February 2013) the international carbon price in the main trading schemes is at an all time low, and therefore the incentives for foreign investment in low carbon and GHG mitigating initiatives is low.

8.4 ESTABLISHING NATIONAL CLIMATE CHANGE FUND (NCCF)

The possibility of increasing resources allocated to climate change proofing programmes will greatly increase over time if there is confidence that these resources will be spent prudently, be quickly accessed and will produce results. Each of the current major DP-financed climate change programmes listed in Chapters 3 and 4 have robust and separate financial management systems, involving direct oversight by each of the respective DPs. However, Government policy on management of projects and programmes is to promote country leadership and the use of country systems, in line with the Paris Declaration on Aid Effectiveness and the Accra Agenda for Action. Current DP-financed climate change programmes are not consistent with this policy. Moreover, the opportunities for pooling DP funds are limited. For this reason, a National Climate Change Fund (NCCF) is proposed in this NCCIP.

Essentially, through the NCCF, it is expected that there will be:

- (i) Provision of technical and financial support and advice to all sectoral players in climate change management;
- (ii) Fund-raising schemes for development programmes on climate change management in Malawi;
- (iii) Development of climate change investment projects in partnership with all players including development partners, donors, NGOs and the private sector;
- (iv) Appraisal of projects on climate change elements/issues, taking into account social rather than private rates of return; and

- (v) A think-tank on new mechanisms to address the effects of climate change including carbon financing.

The NCCF will be housed in the Ministry responsible for Climate Change Management. However, initially the management of the fund would not be by Government employees, rather there will be a semi-autonomous management team for NCCF. This team would provide the high standards of fiduciary management expected by stakeholders. The technical and fiduciary oversight of the NCCF would be provided by a specialist TWG of the NSCCC, with the NSCCC taking overall responsibility for oversight. The fund would additionally be subject to external annual audit.

NCCF will initially be used to attract DP funds for a few Government-led climate change programmes that may each attract DPs to pool their resources with each other. Funds would be earmarked to the extent needed by DPs. The role of the fund managers would be focused on effective and timely use of resources by implementing entities.

Over time, the use of NCCF is expected to grow. After a period of bedding in, mechanisms for institutionalisation of the management of the fund within MoECCM would be considered. The institutionalisation process would be gradual, with the essential requirement being maintenance of confidence in fund management at all stages. The ultimate goal will be “sector budget support” (SBS) by particular DPs, at which point DP funds will simply top-up Government development and recurrent funds allocated to MoECCM and the sector, such as the arrangements from which Malawi's Education and Health SWAp are benefitting.

The structure of the NCCF would be flexible enough to handle various funding modalities, for example a) pooling of DP funds; b) earmarked funds such as from the Green Climate Fund; and c) some funds which are allocated by MoECCM, with the oversight of the NSCCC.

Much as the realisation of opportunities from use of the NCCF is a priority, the NCCIP will also promote the use of discrete funding modalities, especially in the case of DPs that are unable to use the NCCF.

8.5 CONCLUSION

Government, through MoECCM and using the NCCF, will, in collaboration with all other stakeholders, take the lead in coordinating climate change programmes across sectors. This coordination will include all types of funding, whether GoM budget, NCCF, discrete DP funding, civil society or private sector. Such coordination is the essence of a SWAp. Whether or not Climate Change alone is a sector, the structures proposed for the implementation of this NCCIP are the equivalent of a SWAp.

The SWAp elements of this NCCIP and its NCCF will strengthen efforts of the development partners wishing to support climate change programmes and will aid government in coordinating and monitoring all climate change activities. Aid effectiveness will thereby be enhanced.

CHAPTER 9: PROGRAMME SUSTAINABILITY

9.1 INTRODUCTION

Sustainability can be defined as a continuation of benefits of a project or programme and efforts after a major assistance has been completed. Experience has shown that most projects are formulated and implemented without a clear exit strategy and sustainability mechanism. During programme formulation stage, there is need to identify benefits for its short, medium and long term periods. This helps to develop a successful sustainability mechanism for the programme.

The success of the NCCIP depends on the continuation of the investment benefits even after the external assistance has been exhausted. The NCCIP exit strategy and sustainability mechanisms will, therefore, be promoted during its implementation. Some factors that affect programme sustainability and will be vital in the management of the NCCIP are as described below.

9.2 PROGRAMME SUSTAINABILITY

Table 9.1 shows elements of programme sustainability.

Table 9.1: NCCIP Sustainability Factors

KEY FACTOR	DESCRIPTION
Policies	In ensuring program sustainability, programmes and projects should fit with Government policy framework to facilitate integration into the government system.
Participation	For sustainable implementation of projects, a strong sense of local ownership and genuine participation should be promoted. Adequate time and resource allocation for participatory analysis and responding to demand-led approaches are important ways for improving participation. Often, top-down projects generally fail to bring sustainable benefits. It is essential for Project Designs to build on local demand and initiatives. Key stakeholders (beneficiaries) must participate fully in the identification, design and implementation processes.
Management and Organization	It is important for programmes and projects in this NCCIP to integrate with, and build on, local management structures. This can be achieved through adequate institutional analysis during the project design phase.

Financial	<p>Programmes are not sustainable if the net benefit arising is negative or very small when all the costs are considered. Better financial analysis is often required, particularly in the formulation of economic sector programmes and projects.</p> <p>Counterpart contributions, either in cash or in kind (like counterpart staff and office space) from the Partner Government or communities, are a sign of commitment to the programme or project objectives. It demonstrates partners' value on the expected benefits.</p> <p>Programmes and projects should not be designed or equipped with excessive amounts of equipment, or types of equipment, or deliver benefits that are beyond the financial capacity of the stakeholders to operate and maintain.</p> <p>Demonstrated sustained/continued demand is a strong indicator of likely sustainability, both for economic and social sector programmes and projects. Where people are willing to pay for goods or services, (user pays principle) revenue can be generated to sustain the service</p>
Awareness and Training	<p>The provision of appropriate training for identified target groups (government, NGOs, communities or private sector) should be conducted throughout the programme or project, stating the kind of training at each stage as well as expected benefits and output and allow for repetition.</p> <p>Awareness among stakeholders should start early in the design phase to generate an understanding and support for a programme or project's objectives.</p> <p>The programme should clearly indicate how information will be disseminated, what media will be used, and which will be the target group.</p>
Technology	<p>Introduction of technology should be demand-responsive not supply-led. The technology to be transferred must be selected on the basis of its appropriateness in terms of technical and financial criteria, plus social, gender and cultural acceptability. Furthermore, stakeholders must participate in the selection, testing and operation of new technology to promote sustainability. In addition, training must be relevant and appropriate, and the</p>

	<p>continuity of the training itself (including refresher and follow-up training) must also be considered. It is important to build on existing local capacity to deliver training</p>
Social, Gender and Culture	<p>Social, cultural and gender issues require special attention for development intervention to achieve sustainable benefits. It is important to reflect the participation of key target groups, such as women and the youth, in all parts of the programme cycle.</p>
Environment	<p>Environmental sustainability of programmes and projects is strengthened if environmental issues are considered at all stages of the programme cycle. This can be achieved through Environmental Impact Assessment (EIA). EIA as a tool becomes more effective if it involves communities in identification and management of environmental risk, and social issues alongside biophysical impacts. For projects that do not require comprehensive EIA, there will be a need to develop an Environmental Management Plan.</p>
Political and economic factors	<p>Changes in government policies can have adverse effects on prospects for sustainability. It is important that any new government harmonizes new initiatives with existing ones in order to sustain the programme benefits.</p> <p>External economic shocks, such as rises in the price of oil or collapse of market confidence in the country, can frustrate a sustainability strategy. It is vital for programmes or projects to have a contingency plan and risk management strategy which can play an important role in reducing the negative impacts.</p>

9.3 PROGRAMME SUSTAINABILITY STRATEGY

To enhance a sustainable method of implementation, there is need for a sustainability analysis. This is the identification and analysis of the key factors likely to impact on the likelihood of delivering sustainable benefits. At times the impact is recognized as a risk. The difference, however, is sustainability continues to focus on the long term outcomes whereas the risk analysis focuses on the achievement of the objectives within the defined project period. The sustainability analysis helps in the production of a sustainability strategy which may also incorporate the project risks.

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In promoting programme sustainability in the context of climate change, the Malawi Government put in place climate change sustainability structures which include Environment and Climate Change Management sector working group within which National Steering Committee on Climate Change (NSCCC) falls. The climate change technical committee is the technical arm of the NSCCC.

Some of the sustainability frameworks which the government of Malawi has put in place include National Environmental Policy, the National Climate Change Policy, the National Forest Policy and the National Meteorological Policy. The first three are under review and the latter is under formulation. In addition there is MGDS II which is the overarching medium term strategy. Other policy frameworks to support management of the NCCIP include the Food Security, Agriculture, National Water, National Irrigation and Disaster Risk Management Policies. Table 9.2 below illustrates details of the strategies to support the implementation of NCCIP sustainability.



Overexploitation of plantation for timber

Table 9.2: Sustainability Strategy Matrix

Key Sustainability Analysis	Likely Impact on Sustainability	Proposed Basic Sustainability Strategy
<ul style="list-style-type: none"> • Weak /conflicting policies and institutional structures • Weak policy implementation • Political interference 	<ul style="list-style-type: none"> • Uncoordinated and unguided implementation environment • Gaps and contradictions exploited by land users 	<ul style="list-style-type: none"> • Harmonizing Climate Change, Disaster Risk Management and Environment Natural Resource Management related policies by building capacity to formulate, implement and review policies including undertaking planning processes, and enactment of related policies/ legislations.
<ul style="list-style-type: none"> • High staff turnover in government • Inadequate capacity • Uncoordinated responsive system to climate change • Weak planning and slow bureaucratic procedures 	<ul style="list-style-type: none"> • Too much workload • Too much adhoc or misdirected activities • Absence of adequate implementation and monitoring 	<ul style="list-style-type: none"> • Strengthening institutional capacity • Establishment of practical administrative structures, based on functional reviews or diagnostics • Develop staff retention strategies
<ul style="list-style-type: none"> • Weak, low budget allocation to climate change management, • Low private sector participation in CCM 	<ul style="list-style-type: none"> • Implementation failure and goals not achieved 	<ul style="list-style-type: none"> • Diversifying sources of funds • Promoting local maintenance • Local contractors involvement in climate change projects that are infrastructural in nature; enhance climate change awareness programme. • Involve and encourage local Private Sector investments
<ul style="list-style-type: none"> • Inadequate capacity to deal with climate 	<ul style="list-style-type: none"> • Poor internalization of programmes 	<ul style="list-style-type: none"> • Undertaking capacity building initiatives with

Malawi's National Climate Change Investment Plan

<p>change issues including formulation of by-laws to regulate climate change related issues</p> <ul style="list-style-type: none"> • Lack of knowledge and skills 	<ul style="list-style-type: none"> • Inadequate skills and knowledge to facilitate continuous programme implementation 	<p>post programme elements for sustainability</p>
<ul style="list-style-type: none"> • Conflicting and competing technologies • Inappropriate technologies for climate change management 	<ul style="list-style-type: none"> • Poor workmanship 	<ul style="list-style-type: none"> • Developing appropriate and tailor-made technologies
<ul style="list-style-type: none"> • Little or no attention to social matters 	<ul style="list-style-type: none"> • Reluctance to participate in climate change projects • Reluctance to utilize development benefits and maintain the development products 	<ul style="list-style-type: none"> • Community involvement in development planning, monitoring and evaluation processes
<ul style="list-style-type: none"> • Lack of ownership of CCM programmes 	<ul style="list-style-type: none"> • Low utilization of the project benefits • Reluctance to participate in development activities 	<ul style="list-style-type: none"> • Implementing demand driven projects • Key stakeholder involvement in the whole project cycle • Defining smooth project exit strategies with the stakeholders
<ul style="list-style-type: none"> • Weak enforcement of environmental and climate change related legislations and procedures 	<ul style="list-style-type: none"> • Continued environmental degradation 	<ul style="list-style-type: none"> • Strengthening enforcement of environmental and climate . change related legislations and procedures • Advocate for the establishment of Environmental Management Authority
<ul style="list-style-type: none"> • Global rising of fuel prices 	<ul style="list-style-type: none"> • Devastating consequences on programmes implementation and recurrent programming 	<ul style="list-style-type: none"> • Investing in bio-fuels production programmes • Developing and implementing realistic contingency and risk management plans

CHAPTER 10: POTENTIAL INVESTMENT RISKS, MANAGEMENT AND ASSUMPTIONS

10.1 INTRODUCTION

Risk refers to the possibility that the outcome of an action or event could bring adverse impacts on the institution's capital, earnings or its viability, which in turn would result in direct loss of earnings and erosion of capital.

Risks are considered warranted when they are understandable, measurable, controllable and within an institution's capacity to readily withstand adverse results. However, sound risk management systems would enable institutions to take risks knowingly, reduce risks where appropriate and strive to prepare for a future, wherein by its nature, risks cannot be predicted with absolute certainty.

10.2 POTENTIAL INVESTMENT RISKS AND MANAGEMENT

Climate change presents significant risks and economic costs, which require attention from investors. The Government of Malawi is committed to increase the country's resilience to the impacts of climate change; reduce the risks climate change poses to national development; and rapidly develop the country, following a low-carbon growth path.

This investment plan recognizes that development is the most effective way for reducing poverty and building resilience to climate change. If the adverse impacts of climate change on development in Malawi are not dealt with, they will continue to pose increasing risks for investors and donors. In addition, the costs associated with adaptation will increase.

To-date, the constantly increasing risks and results stemming from implementation of climate change programmes and activities still remain the non inclusion of climate change mitigative and adaptive principles in the traditional development policies of government, nor are they included as a factor in the investment decisions in the country's economy.

The potential risks that may affect the implementation of the NCCIP have been analyzed, Table 10.1 indicates the anticipated risks and measures of reducing the risks.

Table 10.1: Reducing Risks in a Climate Change Investment Plan

<i>Risk</i>	<i>Risk description</i>	<i>Measures to address Risks</i>	<i>Assumptions</i>
Inadequate Institutional capacity, high staff turnover and weak coordination.	<p>There is inadequate capacity to undertake surveys and collate and manage information on key investment issues.</p> <p>Currently country level governance arrangements (coordination, mainstreaming, institutional arrangements, capacity building, monitoring) on climate change can further be strengthened.</p>	<ul style="list-style-type: none"> • Build capacity through short and long term training of its staff in the relevant fields. • Strengthen coordination mechanisms amongst key stakeholders. 	<ul style="list-style-type: none"> • The trained staff will remain in their jobs. • No changes will be made within the current coordination structures. • Development Partners will continue supporting capacity building component.
Lack of understanding of climate change holistically.	Despite Government initiative to address climate change issues, there is still inadequate awareness, low knowledge, attitude, practices and behaviours on climate change issues.	<ul style="list-style-type: none"> • Enhance awareness programmes and mainstreaming of climate change issues in policies and programmes. 	<ul style="list-style-type: none"> • Political will to incorporate CC in all sectors. • Political will to increase national budget resources for managing climate change. • Donors will support the investment plan.
Fiduciary and governance risks.	Corruption and governance weaknesses remain impediments to investment in climate change management.	<ul style="list-style-type: none"> • Strengthen monitoring of fraudulent practices through the existing institutions. 	<ul style="list-style-type: none"> • The current fiduciary standards are maintained. • The donors will fund the investment plan. • Political will.
Political instability.	The risk of serious political instability is relatively low.		The political stability will continue.
Unrealistic expectations and too many conditionalities of financial/donor support.	Unrealistic donor and stakeholder expectations for the country to perform above and beyond its capacity.	Before implementation of the plan, MOUs and Project Documents detailing expected outputs and activities shall be signed. Annual Work Plans shall be signed every year.	All parties shall work and abide to the signed MOUs and project documents.

Chapter 11: Monitoring And Evaluation

11.1 M&E FRAMEWORK

The monitoring and evaluation (M&E) framework for the NCCIP will be based on the national M&E framework coordinated by the MoEPD. The district level institutions will collect data and information and prepare consolidated reports for submission to the national level institutions. The national level institutions will prepare consolidated reports for review at National Climate Change Technical Committee meetings.

The consolidated reports agreed at Technical Committee will be reviewed and endorsed at Steering Committee level for submission to the MoEPD. At MoEPD level, the reports will be incorporated in the national M&E report. The premise of the monitoring framework will be based on the consensus among the development partners, the government and other key stakeholders on targets, choice of indicators and systems to monitor progress.

M&E inputs will be based on both technical surveys and administrative data sources. Technical surveys will mostly entail baseline, ad hoc, mid-term and final evaluation surveys. The NCCIP will conduct an overall baseline survey and promote regular monitoring surveys in which data and information will be collected on a monthly basis, analysed and reports produced for submission to the authorities.

All organisations from the public, private, civil society, development partners and communities implementing NCCIP projects and programmes will provide data and information for the monitoring surveys. The M&E Reports will be prepared using the indicators documented in the NCCIP Results Framework. Sector performance will be monitored and reviewed against milestones and targets documented in the results framework.

To the extent possible, baseline data for indicators and monitoring will be made available. Where this baseline information is not available studies will either be conducted or planned as early as possible in the initial phase of implementation. Special attention will be taken to avoid individual stakeholders insisting on using their own separate monitoring framework other than the integrated monitoring framework. Results of the baseline study will ease implementation of the mid-term and final evaluation of NCCIP projects. All the results of the M&E activities will be fed back into the implementation process as improved practices of the NCCIP.

Also key to the M&E systems is enhancing the monitoring capacity of key stakeholders of the NCCIP. By and large, Malawi's national M&E system is characterized by weak capacity and fragmentation. Currently, the natural resources sector does not have an integrated, functioning M&E system or management information system. The current capacity of the implementing agencies to monitor and evaluate the outcomes and results of the NCCIP projects is somewhat limited.

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The NCCIP will, therefore, provide a comprehensive M&E capacity strengthening initiatives for all the participating institutions. The NCCIP management information system will ultimately be improved. The NCCIP will promote joint M&E and regular reporting. A synthesised M&E framework and specific instruments will be developed and utilised as the overarching mechanism for reporting progress.

CHAPTER 12: CONCLUSION

Given below are the conclusions that have been drawn for the NCCIP taking into account the national vision, commitments and urgency of investing in the climate change field.

12.1 The Natural Resource Base

It is unequivocal that Malawi has a diversity of natural resources that include fertile soils, forest resources, water resources, flora and fauna. However, these natural resources are under threat from increasing human and livestock population pressures and effects of climate change.

12.2 The status of Climate change in Malawi and its Impacts

Several studies conducted in the country have established that Malawi has experienced a number of adverse climatic hazards over the last several decades. The most serious have been prolonged dry spells, seasonal droughts, intense rainfall, riverine floods and flash floods. Some of these, especially droughts and floods, have increased in frequency, intensity and magnitude over the last few decades, and have adversely impacted on food security, water availability and security, energy and sustainable livelihoods of rural communities.

Climate change impacts in the country are manifested in various forms including through increases in short- and long-run temperatures; shifts in seasonal precipitation patterns, frequency and intensity; increases in extreme events such as severe storms, flooding, droughts and dry spells; climate-related changes in ecosystems; reductions in ecosystems ability to produce desired goods and services; and climate-related changes in social systems. Associated effects include: more severe droughts and floods; more damage from high wind in storms; disrupted crop calendars, with different pests, diseases and water requirements; heat waves and spread of disease to new areas; increased water demand; and reduced water availability.

12.3 Rationale and Context for Investing in Climate Change

In cognizance of the vulnerability of the country, its communities and ecosystems to the adverse effects of climate change, and the lack of uncoordinated efforts by development partners in addressing climate change-related issues, it is hoped that this NCCIP will also ensure that the key priority areas of the actions to address climate change and its effects are timely, well coordinated and sufficiently supported with resources in order to ensure that the economy and society in Malawi develop to their full potential within a well-protected and sustainable environment, with responsibility towards present and future generations.

The NCCIP will guide all concerned sectors to allocate budgetary resources based on corresponding requirements and the optimal contribution of the sectors to the key priorities of the MGDS II. It will correspondingly provide a framework for monitoring, reporting and accountability of the resources allocated to the sectors by clearly providing strategic priorities and targets. In addition, the NCCIP shall serve to meet international commitments relating to conventions, protocols and agreements signed by the Malawi Government in relation to natural resources and environment, particularly climate change. Hence; it shall bolster the profile of not only climate change, natural resources and environment sector but all the affected sectors in the international circles through acting as the reference tool for lobbying and mobilizing external donor funds to reduce funding gaps.

12.4 Climate Change Governance

While government is an important component, a full understanding of governance will require looking beyond government if investments in climate change activities are to be meaningful. As such improvements in governance should be the responsibility of all stakeholders. As investments are directed to various sectors and within the stakeholder groups, care should be exercised to ensure that the interests of the weaker and politically disenfranchised are well represented and well protected in a governance reform process.

12.5 Historic and Current Climate Change Investments

Malawi has continued to make a number of interventions and investments to respond to the impacts of climate change at various levels since ratifying the UNFCCC. These have been listed above.

12.6 Current Sources of Funding

Current funding for climate change comes through different channels. These include the Government, UNFCCC through the GEF, multilateral organizations, bilateral donors, and the private sector among others. Development Partner funding for climate change activities in Malawi has been principally from the GEF, and partly from bilateral donors. The Government has been using own resources to fund different sectors which have a stake in climate change. Further, a number of NGOs and civil society organizations have been implementing some climate change related activities with funding from different sources.

12.7 Investment Gaps

Respondents interviewed in the development of this NCCIP have indicated that Malawi faces challenges in water, energy, agriculture, fisheries, land use change and forestry, wildlife, human health, disaster risk management and gender which limit the response to the impacts and mitigation of climate change.

12.8 Stakeholders

The Inventory on Climate Change On-going and Planned Activities that Government developed in 2008 and updated in 2012 into an electronic database indicates that there are various key stakeholders in the climate change sector, and these include government, development partners, private sector, civil society organizations, and academia.

12.9 Key Priority Investment Areas

The national stakeholder consultations and a critical analysis of literature including the NAPA have led to the identification of four key priority areas to promote environment and climate change management under the NCCIP in Malawi. Gap analysis, expert reviews and inter-ministerial review also played a major role in the identification process. The areas identified are: adaptation; mitigation; climate change technology development and transfer; and capacity building. These areas are aligned to the Malawi Growth and Development Strategy II in particular priority number 9 which deals with climate change, natural resources and environmental management. Implementation of programmes in these key priority areas will be in the short, medium and long term.

12.10 Adaptation Priority Programmes

Under adaptation, the following four programmes have been identified:

- (i) Strengthening catchment area and soil and water conservation management;
- (ii) Improving climate change community resilience through agriculture production;
- (iii) Improving climate change community resilience through infrastructure development; and
- (iv) Enhancing climate change disaster risk management.

12.11 Mitigation Priority Investments



Need for reforestation

Estone Sambo

Three main investment areas have been identified under mitigation and these are:

- (i) Reducing Emissions from Deforestation and Forest Degradation (REDD+) that includes afforestation and reforestation;
- (ii) Waste management and pollution control; and
- (iii) Enhancement of clean development mechanisms (CDM) and energy saving technologies programmes.

12.12 Climate Change Technology Development and Transfer; and Capacity Development

These programmes are aimed at supporting the development and dissemination of the adaptation and mitigation technologies under the NCCIP. They are:

- (i) Climate Change Adaptation Technology Development (CCATD);
- (ii) Climate Change Mitigation Technology Development (CCMTD) Investments;
- (iii) Adaptation and Mitigation Technology Transfer (AMTT) Investments; and
- (iv) Capacity Development in Climate Change Technology Development and Transfer.

12.13 Investment Budget

The total budget for NCCIP is US\$954.5 million, covering the 11 priority investments, for a six year period. The four thematic areas of Adaptation; Mitigation; Climate Change Research, Technology Development and Transfer; and Capacity Development are allocated 48.2, 19.7, 19.0, and 13.1 per cent of the budget, respectively.

12.14 Institutional Coordination Arrangements

The current Government policy on management of projects and programmes is to promote the use of existing country systems. For this reason, programmes and projects under the NCCIP will be coordinated by the MoECCM. The NSCCC will provide strategic direction, inter-Ministerial coordination and policy guidance, oversee implementation of policy decisions, endorse consolidated annual work plans and budgets, and monitor progress. Implementation of the NCCIP projects and programmes will be by various entities, including MoECCM itself, other line Ministries, INGOs, local civil society, private sector, and development partner organizations.

Because of the multi-sectoral nature of the impacts of climate change, tackling the impacts from different angles in a synergistic and coordinated way will be necessary. In enhancing coordination among various actors, the NSCCC will promote public-private partnerships among DPs, CSOs, PSOs and Government with a view of driving community development projects in climate change through REDD+ and concessionary arrangements.

The work of MoECCM is overseen by the Cabinet Committee on Environment and Natural Resources and supported by the Parliamentary Committee on Agriculture and Natural Resources.

The multi-sectoral nature of climate change issues requires that at the outset, institutions for coordination and implementation are outlined to promote synergies and remove duplications. The aim is to ensure that existing institutions are utilized and adapted where necessary. Establishment of new institutions will be done where there is an observed need.

12.15 Global Financing Opportunities

Global financing resources are collectively called the Global Climate Finance. They include multilateral channels for global climate finance such as the Global Environment Facility, Green Climate Fund, Adaptation Fund, Climate Investment Funds, and Multilateral Development Banks. Funding streams can also come through bilateral finance channels.

12.16 Malawi's Financing Opportunities and National Climate Change Fund (NCCF)

There are five main sources of finance which should be considered for the NCCIP: Government, Development Partners, Civil Society, Private Sector, and Carbon Trading.

The possibility of increasing resources allocated to climate change proofing programmes will greatly increase over time if there is confidence that these resources will be spent prudently, be quickly accessed and will produce results. For this reason, a National Climate Change Fund (NCCF) is proposed in this NCCIP.

The NCCF will be housed in MoECM and its management would be carried out in a way that met the high standards of fiduciary management expected by stakeholders. The structure of the NCCF would be flexible enough to handle various funding modalities, for example a) pooling of DP funds; b) earmarked funds such as from the Green Climate Fund; and c) some funds which are allocated by MoECCM, with the oversight of the NSCCC. The role of the fund managers would be focused on effective and timely use of resources by implementing entities.

Government, through MoECCM and using the NCCF, will, in collaboration with all other stakeholders, take the lead in coordinating climate change programmes across sectors. This coordination will include all types of funding, whether GoM budget, NCCF, discrete DP funding, civil society or private sector. Such coordination is the essence of a SWAp. Whether or not Climate Change alone is a sector, the structures proposed for the implementation of this NCCIP are the equivalent of a SWAp.

The SWAp elements of this NCCIP and its NCCF will strengthen efforts of the development partners wishing to support climate change programmes and will aid government in coordinating and monitoring all climate change activities. Aid effectiveness will thereby be enhanced.

12.17 Programme Sustainability

In promoting programme sustainability in the context of climate change, the Malawi Government has put in place climate change sustainability structures which include environment and climate change management sector working group within which a national steering committee on climate change (NSCCC) falls. The climate change technical committee is the technical arm of the NSCCC. In addition, some of the sustainability frameworks which the government of Malawi has put in place include National Environmental, National Climate Change, and National Forest Policies (which are under review); National Meteorological Policy (which is under formulation); and the MGDS II. Food Security, Agriculture, National Water, National Irrigation and Disaster Risk Management Policies are the other policy frameworks to support management of the NCCIP.

The success of this NCCIP will depend on the continuation of the investment benefits even after the external assistance has been exhausted. In this regard, the NCCIP exit strategy and sustainability mechanisms should, therefore, be promoted during its implementation.

12.18 Potential Investment Risks and Management

In the implementation of the NCCIP, it is anticipated that there will be some risks that might derail achievement of the results. These include:

- (i) Lack of understanding of climate change holistically;
- (ii) Inadequate institutional capacity, high staff turnover and weak coordination;
- (iii) Fiduciary and governance risks;
- (iv) Political instability; and
- (v) Unrealistic expectations and too many conditionalities of the support.

12.19 Monitoring and Evaluation Framework

The monitoring and evaluation (M&E) framework for the NCCIP will be based on the national M & E framework coordinated by the MoEPD. The district level institutions will collect data and information and prepare consolidated reports for submission to the national level institutions. The national level institutions will prepare consolidated reports for review at TWG meetings. The consolidated reports agreed at TWG level will be reviewed and endorsed at SWG level for submission to the MoEPD. At MoEPD level the reports will be incorporated in the national M & E report. The premise of the

monitoring framework will be based on the consensus among the development partners, the government and other key stakeholders on targets, choice of indicators and systems to monitor progress.

Using a set of indicators in the NCCIP Results Framework (available from EAD on request), an integrated monitoring framework will be developed and implemented to facilitate M&E activities in the various sectors in which the NCCIP will be implemented. The indicators chosen will facilitate monitoring of inputs, the processes, the outputs and impacts of NCCIP priority interventions in the various sectors.

Programme Monitoring and Evaluation System will be coordinated by the Planning Units of all the participating organisations focusing mainly on monitoring input, outcomes and impact indicator data management. Service delivery monitoring will be the mandate of the technical departments and will focus on monitoring processes and outputs.

ANNEX I: Logical Framework

FRAMEWORK

Theme	Programme	Goal	Objectives	Outputs	Activities	Stakeholders	Timeframe
1. Adaptation	Catchment Management and Soil and Water Conservation	Ensure the protection of soil and water resources	<ul style="list-style-type: none"> To reduce soil erosion To promote water retention within the catchment To establish Integrated Water resources Management 	<ul style="list-style-type: none"> Soil erosion is reduced Water retention within the catchment is promoted Integrated Water resources Management project is established 	<ul style="list-style-type: none"> Soil and water conservation project Catchment rehabilitation Water harvesting Construction of deep wells Construction of Medium and large scale Dams Afforestation along banks of problematic rivers 	Land Resources Conservation Department, Water Resources Department, Forestry Department, LUANAR, UNIMA, MZUNI, WESNET, RHAM, Total Land Care, Greenbelt Initiative	2013 - 2022
	Improved community resilience through sustainable Agriculture	Ensure Sustainable Agriculture that supports Communities to be Climate Change resilient	<ul style="list-style-type: none"> To establish Agriculture that is Environmentally friendly, Socially acceptable and Economically empowering farmers To establish Afforestation 	<ul style="list-style-type: none"> Afforestation programmes established Agroforestry programmes promoted Conservation Agriculture promoted Livestock activities established 	<ul style="list-style-type: none"> Agroforestry practices Afforestation promotion of marketing of crops Agricultural production under erratic rains Biodiversity conservation, Microfinance, Promotion of crop diversification, Early maturing varieties, 	Land Resources Conservation Department, Forestry Department, LUANAR, UNIMA, MZUNI, Total Land Care, Ministry of Agriculture and Food security, Department of Irrigation, Department of Water Resources	2013 - 2022

			<ul style="list-style-type: none"> • To promote Agroforestry • To promote Conservation Agriculture • To promote sustainable Livestock practices 	<ul style="list-style-type: none"> • Rural livelihoods improved 	<ul style="list-style-type: none"> • Promotion of drought resistant livestock, • Promote disease resistant livestock through breeding, • Promotion of small livestock, • Post-harvest management technologies, • Promote sustainable economic utilization of community forests, • Promotion of start up/capital/loan provision in fruit processing, • Cooking oil processing, • Irrigation, • Afforestation, • Livestock • Horticulture enterprises: • Orchard establishment • Promotion of appropriate farm mechanization technologies 		
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	Improved community resilience through appropriate infrastructure development	Climate proof infrastructure development supporting Community resilience	<ul style="list-style-type: none"> • To develop infrastructure that withstands the adverse effects of Climate Change • To develop guidelines for Climate change proof infrastructure • To renovate damaged infrastructure • To develop a programme to strengthen the existing institutions responsible for infrastructure development • To develop portable water system in NAPA 	<ul style="list-style-type: none"> • Infrastructure that withstands the adverse effects of Climate Change developed • Guidelines for Climate change proof infrastructure • Damaged infrastructure renovated • Programme to strengthen the existing institutions responsible for infrastructure development • Portable water system in NAPA vulnerable hotspot districts developed • Irrigation infrastructure developed 	<ul style="list-style-type: none"> • Renovation of destroyed infrastructure • Improve health services to deal with health challenges that arise as a result of climate change • Flood protection structures 	Ministry of Lands and Housing, Ministry of Local Government and Rural Development, Town and City Councils, NICC, National Roads Authority, MIE, Ministry of Water Development and Irrigation	
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2. Mitigation	Afforestation program and reforestation	To increase carbon sinks and forest cover	<p>and adoption of interventions that enhance resilience through the use of knowledge, educations and innovations</p> <ul style="list-style-type: none"> • To reduce the underlying risks • To strengthen preparedness capacity for effective response and recovery for all levels 	<ul style="list-style-type: none"> • Area planted with trees increased • Area replanted with trees increased • Incomes from forestry products for communities increased 	<ul style="list-style-type: none"> • Nursery establishment and management • Enhancing the National tree planting programme • Encourage community woodlots • Promotion of Agroforestry and other best-bet technologies 	Forestry Department, Land Resources Conservation Department, Total Land Care, UNIMA, MZUNI, LUANAR EAD, City, Town and District Councils, Ministry of Water Development and Irrigation, Forestry	2013 - 2022
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						<ul style="list-style-type: none"> Rehabilitate national plantations Promote marketing of forestry products 	<p>Department, Ministry of Health, Land Resource Conservation and Households</p>	2013 - 2022
Waste Management and Pollution Control	<p>To reduce green house gases emissions</p> <p>To improve health of the people in urban and rural areas</p>	<ul style="list-style-type: none"> To improve Waste Management To improve sanitation 	<ul style="list-style-type: none"> Appropriate waste disposal mechanisms promoted Water quality improved 	<ul style="list-style-type: none"> Construction of Land fills Installation of Incinerators Construct a new sewer Rehabilitate the existing sewer Collect waste Appropriately position toilets, sewer and pit latrines Plant trees and reeds in water catchment areas Rehabilitation of water catchment areas 	<p>EAD, Ministry of Energy and Mining, Forestry department, Energy Department, ESCOM, MERA, Ministry of water development and Irrigation</p>	2013 - 2022		
Enhancement of Clean Development Mechanisms (CDM) and energy saving technologies	Reduce emissions of Green House Gases	To increase access to carbon credits	Capacity in CDM project development built	<ul style="list-style-type: none"> Undertake water treatment Undertake training for various sectors Raise awareness on CDM concept Undertake Training of trainers (TOT) 		2013 - 2022		

			<p>To reduce environmental degradation</p> <p>To promote low cost energy efficient technologies</p>	<p>CDM projects developed and implemented</p> <p>Planting and replanting of trees increased</p> <p>Protection and conservation of existing forests promoted</p> <p>Use of biomass reduced</p> <p>Rural electrification expanded</p>	<p>Profile CDM project areas</p> <p>Design CDM projects</p> <p>Promote implementation of CDM projects</p> <ul style="list-style-type: none"> • Enhancing the National tree planting programme • Encourage community woodlots • Promotion of Agroforestry and other best-bet technologies • Rehabilitate national plantations <p>Sensitize the public on forest management</p> <p>Promote co-management</p> <p>Control bushfires</p> <p>Mount roadblocks</p> <p>Undertake patrols</p> <p>Develop and disseminate alternative energy technologies</p> <p>Extend ESCOM gridlines</p> <p>Diversify sources of power</p>	<p>2013 - 2022</p>
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ANNEX II: List of Notable Stakeholders

1. Public sector

a. Government

- ✓ Ministry of Environment and Climate Change Management
- ✓ Department of Climate Change and Metrological Services
- ✓ Department of Environmental Affairs
- ✓ Department of Energy Affairs
- ✓ Department of Forestry
- Office of the President and Cabinet(OPC)
 - ✓ NCCC
- Ministry of Finance and Development Planning
- Ministry of Local Government and Rural Development
- Ministry of Education, Science and Technology
- Ministry of Agriculture, Irrigation and Water development
 - ✓ Department of Irrigation (DoI)
 - ✓ Department of Water Supply (DoWS)
 - ✓ Department of Agricultural Research Services (DARS)
 - ✓ Department of Agricultural Extension Services (DAES)
 - ✓ Department of Land Resources Conservation (DLRC)
 - ✓ Department of Fisheries
- Ministry of Tourism, Wildlife and Culture
- Ministry of Education, Science and Technology (MoEST)
- Ministry of Health and Population
- Ministry of Transport and Public Infrastructure
- Department of Disaster and Preparedness

b. Parastatals

- Electricity Supply Corporation of Malawi (ESCOM)
- Malawi Energy Regulatory Authority (MERA)
- Malawi Industrial Research and Technology Development Centre (MIRTDC).
- Blantyre Water Board (BWB)

- National Research Council of Malawi (NRCM)
 - Malawi Revenue Authority(MRA)
 - REAMA
 - Malawi Bureau of Standards
 - The Roads Authority
 - National Roads Fund
 - Local Government Finance Committee
 - Lilongwe Water Board
 - Malawi Housing Cooperation
- c. Local Authorities
- City Councils
 - Town Councils
 - District Councils
2. Donor Community
- UN Agencies
 - ✓ UNDP
 - ✓ FAO
 - ✓ UNICEF
 - ✓ WFP
 - ✓ UNHABITAT
 - ✓ UNFPA
 - ✓ UNEP
 - ✓ DFID
 - Norway
 - Japan- JICA
 - USAID
 - EU
 - AfDB
 - World Bank
 - Clinton Development Initiative

3. Academia and Research Institutions

- University of Malawi (UNIMA)
 - ✓ The Polytechnic
 - ✓ Chancellor College
- Mzuzu University (MZUNI)
- Lilongwe University of Agriculture and Natural Resources (LUANAR)
- Bunda College
- World University Services of Canada (WUSC)
- National Herbarium and Botanic Gardens of Malawi
- FRIM
- CREMPA
- DAES
- LEAD-SEA

4. Civil Society Organizations

- CARE
- NASFAM
- World Vision
- MEET
- OXFAM
- MMCT
- CEPA
- CURE
- WESM
- CONGOMA
- Action Aid
- Evangelical Association

5. Private Sector

- Petroleum suppliers
- Energy
- Banks Association of Malawi
 - ✓ NBS
 - ✓ NBM
 - ✓ STDB
 - ✓ OIBM

ANNEX III: Summary of Priority Investment Sub-components by Watershed Component

Across all WRAs	a. Integrated land use management plans established in priority watersheds to enable a consolidated and coordinated approach to watershed management.
Integrated Land Use Plans	
Component 1: Songwe and Karonga WRAs	1a. Implementing sustainable fuel wood and charcoal production and consumption
Avoiding catchment degradation, through biomass regeneration and building resilient rural livelihoods	1b. Enhanced productivity of the soils in fallow millet farming systems
	1c. Establish customary land forest and tree management systems to avoid deforestation and forest degradation and enhance ecosystem service functions
	1d. Strengthen the management of protected forest areas to secure sustainable economic and environmental benefits
	1e. Reduce vulnerabilities of small holder communities from soil degradation and drought risk.
	1e. Reduce vulnerabilities of small holder communities from soil degradation and drought risk.
	1f. Afforestation and reforestation along roads and riverbanks
Component 2: Nkotakota and Linthipe WRAs	2a. Strengthen the management of protected forest areas to secure sustainable economic and environmental benefits
Integrating and consolidating sustainable land use initiatives to create climate compatible local economic development	2b. Landscape restoration on customary lands forest and tree management systems to avoid forest degradation and deforestation and enhance tree-based economic opportunities
	2c. Climate smart land management to reduce community vulnerabilities from soil degradation and drought.
	2d. Strengthening watershed governance to support and coordinate local level landscape restoration.
	2e. Feasibility assessment for alternative charcoal energy sources in Nkotakota - waste to energy, and fast growing bamboos.
	2f. Afforestation and reforestation along roads and riverbanks

Component 3: Shire WRA

Landscape restoration for enhancing ecosystem services and reducing downstream vulnerabilities.

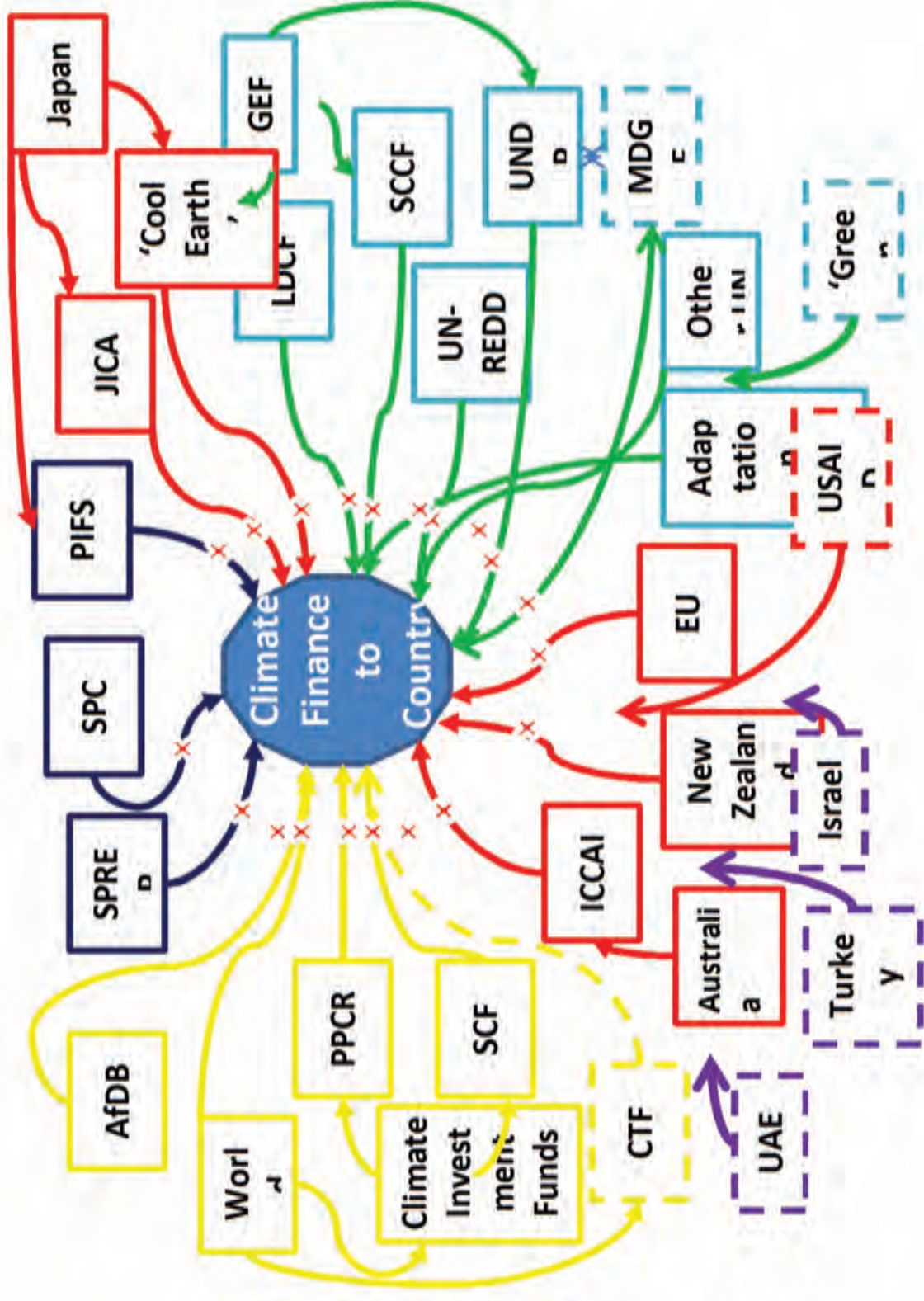
- 3a. Restoration of degraded woodland to enhance renewable energy supply and avoid deforestation
- 3b. Climate smart land management to reduce community vulnerabilities from soil degradation and drought.
- 3c. Catchment conservation for Mpira Dam.
- 3d. Mwabvi-Lengwe conservation corridor.
- 3e. Securing sustainable management of the western and eastern escarpment forest reserves.

Component 4: Across all WRAs

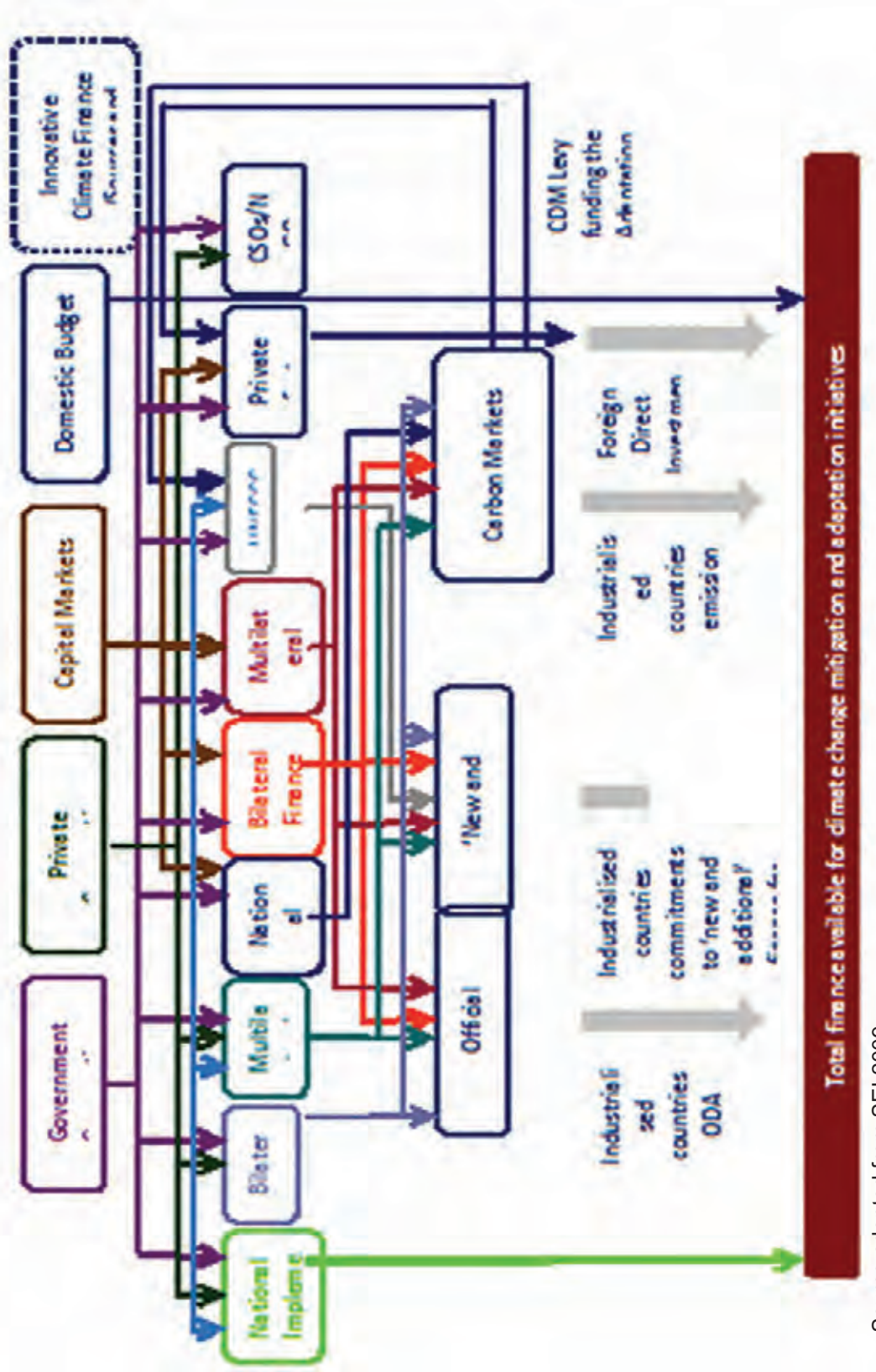
Building institutional capacity for integrated land use management

- 4a Establishing agreed cross-sectoral management standards for sustainable land use practices
- 4b Establishing effective monitoring systems for measuring and validating improved land use management and their mitigation and adaptation co benefits.
- 4c Building capacity for the effective management of individual and cooperative natural resource enterprises

ANNEX IV: Sources of Climate Finance From a Country Perspective



ANNEX V: Climate Change Finance: Sources, Agents and Channels



Source adopted from SEI 2009

ANNEX VI: Global Climate Change Funds and approved funds for Africa (as of 2011)

Administrator	Fund	Adaptation	Mitigation	Global Pledge US\$m	Approved Funds to Africa to date US\$m
The Global Environment Facility (GEF)	GEF Trust Fund – Climate Change focal area (GEF 4)	✓	✓	\$1,030	\$135
	GEF Trust Fund – Climate Change focal area (GEF 5)	✓	✓	\$1,150	No data
	Least Developed Countries Fund (LDCF)	✓		\$262	\$95
	Special Climate Change Fund	✓	✓	\$148	\$28
	Strategic Priority on Adaptation (SPA): Piloting an Operational Approach to Adaptation	✓		N/A (\$50 deposited via GEF Trust Fund)	\$9
World Bank	Clean Technology Fund (CTF)		✓	\$4,400	\$601
	Forest Carbon Partnership Facility (FCPF)		✓	\$221	\$1
	Forest Investment Programme (FIP)		✓	\$558	No data
	Pilot Program for Climate Resilience (PPCR)	✓		\$971	\$113
	Scaling-Up Renewable Energy Program for Low Income Countries (SREP)		✓	\$307	No data
	Strategic Climate Fund (SCF)	✓	✓	\$1,800	No data
UNDP	Indonesia Climate Change Trust Fund (ICCTF)	✓	✓	\$18	\$0
	MDG Achievement Fund – Environment and Climate Change Thematic Window	✓	✓	\$88+ ²	\$24
	UN-REDD Programme		✓	\$126	\$16
African Development Bank	Congo Basin Forest Fund		✓	\$165	\$17
European Investment Bank (EIB)	The Global Energy Efficiency and Renewable Energy Fund (GEEREF)		✓	\$169	No data
European Commission	Global Climate Change Alliance	✓	✓	\$226	\$114
UK	Environmental Transformation Fund – International Window (ETF-IW) (2008/09 – 2010/11)	✓	✓	\$1,298 ¹	No data
	International Climate Fund (ICF) (2011/12 – 2014/15)	✓	✓	\$4,705	No data
Germany	International Climate Initiative (ICI)	✓	✓	\$618	\$67
Australia	International Forest Carbon Initiative		✓	\$216	\$0
Brazilian Development Bank (BNDES)	Amazon Fund		✓	\$1,027	\$0
Japan	Hatoyama Initiative	✓	✓	\$15,000	No data
Asian Development Bank (ADB)	Climate Change Fund (Clean Energy Component)	✓	✓	\$40	
Adaptation Fund Board	Adaptation Fund	✓		\$216	\$80
Total				\$34,750	\$1,228

ANNEX VII: Sources and Recipients of Multilateral Finance

Sources of multilateral finance (as of 2009/10)
finance

Recipients of multilateral
(2009/2010)

Donors	USD million	%
USA	19,474	44%
Sweden	4,448	10%
Belgium	3,250	7%
UK	3,182	7%
France	2,840	6%
Canada	1,975	4%
Finland	1,419	3%
Italy	1,394	3%
Japan	1,285	3%
Portugal	1,221	3%
Switzerland	1,094	2%
Greece	869	2%
Ireland	288	1%
Australia	249	1%
EEC	239	1%
Luxembourg	238	1%
Spain	185	0%
New Zealand	135	0%
Norway	114	0%
Denmark	111	0%
Iceland	90	0%
Netherlands	86	0%
Austria	2	0%
Grand Total	44,186	100%

Recipient Region	USD million	%
Asia	2,742	26%
Latin America and Caribbean	2,402	23%
Europe and CIS	1,987	19%
North & Central America	1,566	15%
MENA	1,055	10%
Africa	435	4%
Oceania	55	1%
Unspecified	219	2%
Total	10,460	100%

ANNEX VIII: Sources and Recipients of Bilateral Finance

Sources of bilateral finance (as of 2009/10) Recipients of bilateral finance (2009/2010)

Donors	USD million	%
Japan	7,283	33%
France	3,815	18%
Germany	3,608	17%
Brazil	3,149	14%
Norway	629	3%
China	600	3%
United Kingdom	581	3%
Spain	556	3%
Australia	318	1%
Denmark	299	1%
Finland	183	1%
United States	148	1%
India	115	1%
Korea	102	0%
Belgium	90	0%
Sweden	81	0%
Canada	72	0%
Switzerland	50	0%
Italy	43	0%
Austria	29	0%
Greece	11	0%
Portugal	3	0%
Ireland	1	0%
New Zealand	1	0%
Total	21,768	100%

Recipient Region	USD million	%
Asia	8,660	40%
Latin America	5,355	25%
North Africa and Middle East	3,028	14%
Other Africa	2,558	12%
Oceania	182	1%
The Caribbean and Central America	155	1%
Europe	84	0%
America	32	0%
Transregional / Unspecified	1,620	7%
Total	21,674	100%

ANNEX IX: Financial flows for REDD+

Fund	Estimated annual commitments (USD million)	Source
UN-REDD Programme	50.7	Jan 2010 to December 2010 Approved budget for projects. Source: http://mdtf.undp.org
World Bank Forest Carbon Partnership Facility	11.5	Cumulative total approved spend. Source: www.climatefundsupdate.org
Congo Basin Forest Fund	17.4	Cumulative total approved spend. Source: www.climatefundsupdate.org
Amazon Fund	105.0	Cumulative total approved project spend. Source: Amazon Fund.
BNDES Mata Atlântica initiative	3.9	Projects approved to date. Source: BNDES.
Forest Investment Program	0.7	Funds disbursed to investment plans to date. Source: www.climatefundsupdate.org
Norway-Indonesia REDD+ Partnership	0.0	Phase I contribution equals USD 30 million; however no funds have yet been disbursed to projects. Source: Norway (2010)
Norway-Guyana REDD+ Investment Fund	0.0	USD 30 million deposited to the fund as of April 2011, however no funds have yet been disbursed to projects. Source: WB (2011)
Global Environment Facility	55.0	Macqueen (2010) estimate of forest related activities in the fifth replenishment the GEF, divided by four years of the replenishment.
International Tropical Timber Organization	4.0	Macqueen (2010)
Bilateral climate marked commitments in the forestry sector	365.0	OECD DAC database data for 2009 (OECD, 2011)
Forest Carbon Market	125.0	Ecosystem Marketplace (2011)
Total	738.2	

BIBLIOGRAPHY

- McSweeney, C., M. New, G. Lizcano (2010). The UNDP Climate Change Country Profiles: improving the accessibility of observed and projected climate information for studies of climate change in developing countries. *Bulletin of the American Meteorological Society*, 91, 157–166.)
- IPCC (2007). *Climate Change: Synthesis Report*. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. IPCC, Geneva, Switzerland.
- IPCC (2007). *Climate Change: Mitigation of Climate Change - Summary for Policy Makers and Technical Summary*. Working Group III Contribution to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, UNEP.
- IPCC (2007). *Climate Change: Impacts, Adaptation and Vulnerability - Summary for Policy Makers and Technical Summary*. Working Group II Contribution to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, UNEP
- IPCC (2007). *Climate Change: The Physical Science Basis - Summary for Policy Makers, Technical Summary and Frequently Asked Questions*. Working Group 1 Contribution to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, UNEP.
- Magrath J. & Sukali E. (2009). *Winds of Change: Climate Change, Poverty and the Environment in Malawi*, Oxfam International.
- Malawi Government (2001). Malawi Sector Investment Programme (MASIP): *Agricultural Sector Priority Policies and Strategies Framework for Malawi*, Lilongwe, Malawi.
- Malawi Government (2002). *Malawi Poverty Reduction Strategy Paper*, Lilongwe, Malawi.
- Malawi Government (2003). *Economic Report*, Lilongwe, Malawi.
- Malawi Government (2004). *Economic Report*, Lilongwe, Malawi.
- Malawi Government. (2005). *Economic Report*, Lilongwe, Malawi.
- Malawi Government (2006). *Economic Report*, Lilongwe, Malawi.
- Malawi Government (2007). *Economic Report*, Lilongwe, Malawi.
- Malawi Government (2008). *Economic Report*, Lilongwe, Malawi.
- Malawi Government (2009). *Economic Report, Lilongwe*, Malawi.
- Malawi Government (2010). *Economic Report*, Lilongwe, Malawi.
- Malawi Government (2011). *Economic Report*, Lilongwe, Malawi.
- Malawi Government (2012). *Economic Report, Lilongwe*, Malawi.

- Malawi Government (2005). *Malawi Growth and Development Strategy*, Lilongwe, Malawi
- Malawi Government (2002). *Initial National Communication under the United Nations Framework on Climate Change*, Environmental Affairs Department, Lilongwe, Malawi.
- Malawi Government (2005). *Initial National Communication under the United Nations Framework on Climate Change*, Environmental Affairs Department, Lilongwe, Malawi.
- Malawi Government (2006). *Malawi National Adaptation Programmes of Action (NAPA)*, Environmental Affairs Department, Lilongwe.
- Malawi Government (2011). *Second National Communication under the United Nations Framework on Climate Change*, Environmental Affairs Department, Lilongwe, Malawi.
- Malawi Government (2009). *Inventory of Climate Change related on going and planned activities*. Environmental Affairs Department, Lilongwe, Malawi
- The Kyoto Protocol to the Convention on Climate Change*, (reprinted 2007). Bonn, Germany, Climate Change Secretariat.
- United Nations Framework Convention on Climate Change (UNFCCC)*, (2002). Bonn, Germany, Climate Change Secretariat.
- World Bank. (1986), *Poverty and Hunger: Issues and Options for Food Security in Developing Countries*, World Bank, Washington, D.C.
- World Bank (1992). *The Effects of Economic Policies on African Agriculture*, World Bank, Washington, D.C.

