MAINSTREAMING ENVIRONMENT INTO MKUKUTA II PROCESS

FINAL REPORT

To

MINISTRY OF FINANCE AND ECONOMIC AFFAIRS

LONGINUS RUTASITARA, RAZACK B. LOKINA AND FREDRICK YONA*

Department of Economics
University of Dar es Salaam
(tel)+255 22 2410252; fax +255 22 2410162; doe@udsm.ac.tz

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*contact: rutasitara@udsm.ac.tz;

List of Abbreviations

AP	Action Plan
ASDS	Agricultural Sector Development Strategy
CBD	Convention on Biological Diversity
CBO	Community Based Organisation
CCD	Convention to Combat Desertification
CFCs	Chlorofluorocarbons
CSO	Civil Society Organisation
DAC	Development Assistance Committee
D-by-D	Decentralisation by Devolution
DED	District Executive Director
DFO	District Forest Officer
DNRO	District Natural Resources Officer
DPG	Development Partners Group
DWE	District Water Engineer
ECA	Economic Commission for Africa
EE	Environmental Education
EMA	Environmental Management Act, 2004
ENR	Environment and Natural Resource Issues
ES	Environment Segment (of a village, ward, district, region, sector plan)
EU	European Union
FRMP	Forest Resource Management Project
GDP	Gross Domestic Product
GEF	Global Environment Facility
GMO	Genetically Modified Organisms
GoT	Government of Tanzania
HIV/AIDS	Human Immunity Virus/Acquired Immunity Deficiency Syndrome
IFMS	Integrated Financial Management System
IIED	International Institute for Environment and Development
IISD	International Institute for Sustainable Development
ILO	International Labour Organisation
IPCC	International Panel for Climate Change
JAS	Joint Assistance Strategy
LGAs	Local Government Authorities
LGCDG	Local Government Capital Development Grant
M&E	Monitoring and Evaluation
MDA	(government sector) Ministry, Department and Agency
MDGs	Millennium Development Goals
MOF	Ministry of Finance
MPEE	Ministry of Planning, Economy and Empowerment
MTEF	Medium Term Framework
NAP	National Action Programme
NBSAP	National Biodiversity Strategy and Action Plan
NEAP	National Environmental Action Plan
NEECS	National Environmental Education and Communication Strategy
NEMC	National Environment Management Council
NEP	National Environmental Policy
NGO	Non Government Organisation
NPES	National Poverty Eradication Strategy
NSGRP	National Strategy for Growth and Reduction of Poverty
NSSD	National Strategy for Sustainable Development
O&OD	Opportunities and Obstacles to Development Planning
PACD	Plan of Action to Combat Desertification
PBG	Plan and Budget Guidelines
PER	Public Expenditure Review

PFM	Participatory Forest Management
PMO	Prime Minister' Office
PMO-RALG	Prime Minister's Office-Regional Administration & Local Government
PMS	Poverty Monitoring System
PO-PP	President's Office, Planning and Privatisation (now MPEE)
PO-RALG	President's Office - Regional Administration and Local Government (now PMO-RALG)
PRS	Poverty Reduction Strategy
PRSP	Poverty Reduction Strategy Paper
R&B	Review and Backstopping
R&D	Research and Development
RCDO	Regional Community Development Officer
RDP	Rural Development Policy
RENED	Research Network for Environment and Development
RIO	Regional Informational Officer
RNRO	Regional Natural Resources Officer
RS	Regional Secretariat
SBAS	Strategic Budget Allocation System
SDPs	Sector Development Programmes
SEA	Strategic Environmental Assessment
SEAP	Sector Environmental Action Plan
SMART	Simple Measurable Accurate Realistic Time-bound
SOE	State of Environment
SPs	Strategic Plans
TAMISEMI	*Tawala za Mikoa na Serikali za Mitaa* (Regional Administration and Local Government)
TAS	Tanzania Assistance Strategies
TFAP	Tanzania Forestry Action Plan
TIP	Traditional Irrigation Programmes
TSED	Tanzania Socio-Economic Data base
UDEM	Urban Development and Environmental Management
UN	United Nations Organisation
UNCCD	United Nations Convention to Combat Desertification
UNCED	United Nations Conference on Environment and Development
UNCOD	United Nations Conference on Desertification
UNCTAD	United Nations Conference on Trade and Development
UNDDC	United Nations Dry land Development Centre
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNIDO	United Nations Industrial Development Organisation
UNPF	United Nations Population Fund
URT	United Republic of Tanzania
VEO	Village Executive Officer
VPO	Vice President's Office
WDC	Ward Development Committee
WEO	Ward Executive Officer
WFP	World Food Programme
WMAs	Wildlife Management Areas
WSSD	World Summit on Sustainable Development
WWF	World Wildlife Fund for Nature

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Executive Summary

Objectives of the Study

The build-up of Tanzania's experience, particularly during the preparation and implementation of the National Strategy for Growth and Poverty Reduction (NSPR) (MKUKUTA I) shows the steps, with technical and financial support of Development Partners, that were taken to integrate environment and natural resources issues were more visible at the central government level (the championing and coordinating role of the Office of the Vice President) and some of the natural resources sector Ministries, Departments and Agencies (MDAs). This document attempts to piece together this experience with a view to informing MKUKUTA II. Environment and natural resources in Tanzania provide basic inputs for the livelihoods of majority of Tanzania, employment, foreign exchange earnings and government revenue. Unsustainable extractive activities erode not only the resources wastefully but also, where there is corruption, loss of government revenue and growth potentials. Good governance requires that the resources be administered with sense of commitment to transparency and accountability when granting access rights, collecting revenue and monitoring activities (surveillance) and enforcement of applicable laws.

Mainstreaming environment into development policy has aimed to increase the visibility of the need of having all productive activities take cognisance of the consequences of such activities on environment to avert possible environmental hazards. Environmental mainstreaming entails (i) integration of the sustainability principles into a development strategy within a country and where necessary, within an international agreement, (ii) building capacities at national and local levels for sharper understanding and identification of environmental concerns and opportunities (iii) implementing performance and easy-to-monitor indicators. The interventions should be integrated actions into plans and budgets.

Though not unique in the progress made, Tanzania's experience is comparable to other countries; it shows how some of the constraints to mainstreaming at the macro-level were dealt with. Problems remain, however, relating mainly to knowledge gaps and change in mind-set on the importance of environment. Lack of accurate data, capacity limitations in terms of requisite professional skills to suit the different sector situations as well as financial resources still remain major setbacks.

II Key Findings

1. Environmental sustainability has been integrated in key plans and policies (MKUKUTA, EMA etc) difficulties related to implementation at sector and LGA levels. Why?

2. There were significant challenges in the implementation of MKUKUTA environment related targets. For instance, most sectors pursued individual sector mandates as there were limited incentives for cross-sectoral interventions (budgets allocated for sector achievements rather than cross-sectoral collaboration). In addition, due to weak

coordination across sectors/MDAs and LGA there were significant overlaps in activities carried out and lost opportunities to benefit from synergies.

3. Funding for environmental interventions at sector and sub-national levels was difficult to trace as there is no specific budget code for environment activities. In the agricultural sector it was found that no funds had been set aside for environmental protection or measures to monitor the status of the environment despite the heavy reliance on environment and natural resources for improved agricultural productivity and food security. Also, despite the allocation of specific funds for EMA implementation at sector level, it has been difficult to trace the use of these funds.

4. Tax and non-tax revenues are probably not fully exploited. This remains a source of concern for sustainable domestic revenue collection and an area for serious consideration in the MKUKUTA II.

5. Despite the potential for economic instruments to promote sustainable resource use and domestic revenue mobilization these are not consistently used. For example, there is poor revenue collection from forestry resources, fisheries and wildlife due to under-pricing and poor reporting on actual extraction and exports.

6. So far, it is not clear how much has been collected and if the collected money was allocated for environment and natural resources protection or for other government uses as a normal tax revenue.

7. There are gaps in the definition and use of environmental standards and indicators for maintaining environmental quality

8. Although Tanzania is a signatory to several international environmental conventions there is limited integration of these policy commitments in national policy processes.

9. Harmonisation of poverty/environment issues in key sector policies (agriculture, tourism, mining, energy, rural development) has the potential for enhanced growth and improved livelihoods.

10. There are severe capacity gaps for implementation of environment related activities at sector and sub-national levels especially at the local government level.

III Recommendations

a. Strengthen national monitoring and accounting systems to capture the economic value of environment and natural resources to guide efficient resource allocation for growth and poverty reduction.

b. Improve inter-sectoral coordination mechanisms for implementation of environment related outputs that cut across sectors and underpin the achievement of national growth objectives

c. Address the weakness related to target setting in MKUKUTA I including a large number of targets and interventions and difficulties in assigning responsibilities to specific institutions and prioritizing among targets. Specific goals and targets are proposed in

d. Provide a separate budget code to track environment related expenditures

e. Promote targeted public awareness and research activities on growth and environment to guide policy and decision making

f. Address incidences of weak governance of natural resources that leads to loss of economic benefits for the communities and government through corruption, and unsustainable extraction of natural resources that threatens the achievement of growth objectives.

g. Address capacity gaps related to environmentally sustainable planning, budgeting and monitoring, especially at sub-national levels.

h. Harmonize the implementation of key sector policies (agriculture, tourism, mining, energy, rural development) for enhanced sustainability, growth and improved livelihoods.

1. Introduction

1.1 Context

In the background of recent steps by Tanzania to mainstream environment into the national development frameworks, this assignment seeks to assess the progress made so far in integrating environment into the growth and poverty eradication strategies. The study seeks also to draw practical lessons that can best inform the preparation and implementation of the environment-related interventions in MKUKUTA II. The purpose is to deepening environmental mainstreaming and increasing the pay-offs derived from the process. Such pay-offs include and are not limited to more sustainable development of natural resources and environmental protection and social wellbeing (healthy and safe living and working conditions). The linkage between poverty and environment underscored in MKUKUTA I suggests that a well functioning growth and poverty alleviation strategy cannot operate in isolation with sustainable environment and natural resource management and utilization. Since environmental degradation has more severe welfare implications on the poor than on the non-poor, all actors are required to protect the ecosystems that provide food, clean water, energy and shelter as well as sources of income from agriculture, fishing, forestry, tourism, manufacturing and service providing activities.

The conceptual justification for the massive effort in environmental mainstreaming in Tanzania and other countries, with special concerns for poor countries and communities, is found in the *environment-poverty nexus*; however, this study makes reference to the relevant practical relationships, where such relationships can help to clarify the issues that facilitate or limit environmental mainstreaming process itself. The scope of the review will include progress regarding mainstreaming environment at three distinct levels - national, sector and local government, that is, how the specific commitments/targets contained in MKUKUTA I were implemented at these levels.

Mainstreaming environment requires (i) integration of the sustainability principles into a development strategy within a country and where necessary, within an international agreement, (ii) building capacities at national and local levels for sharper understanding and identification of environmental concerns and opportunities (iii) planning and implementing

appropriate interventions along with adequate performance and easy-to-monitor indicators. The interventions should be integrated actions into plans and budgets. All this should be based on creating public awareness that the environmental resources are a source of livelihoods and need to be protected for present and future generation. Environmental mainstreaming and protection further entails a need for legal provisions to enforce desirable actions.

1.2 Objective of the Review

Since the launch of the current National Strategy for Growth and Poverty Reduction (NSGRP) (MKUKUTA I) in 2005/06 efforts have been made to implement the environment-related actions/interventions. Financial and manpower resources were deployed to streamline environmental issues into sectoral policies, programmes and plans, and budgets at central and local government levels. For instance, guidelines were drafted to help local government authorities and Ministries, Departments and Agencies (MDAs) to mainstream environment into their plans and budgets (URT 2006, URT 2007). Various other methods and policy instruments were deployed to facilitate mainstreaming of environmental issues. The Environmental Management Act (EMA) in 2004 continues to be a key institutional framework for environmental management.

It is important to evaluate how well the process of mainstreaming environment into the national policy frameworks has been conducted; how effective the mainstreaming has been and what lessons can be learned from the mainstreaming experiences for deepening the integration of environment in the next MKUKUTA II (2010/11-15/16). The review seeks to:

(i) Assess the extent of environmental mainstreaming in the course of implementation of MKUKUTA I.

(ii) Identify lessons learned to be used as input into MKUKUTA II (2010/11-2015/16) at the levels of Local Government and Central Government Level (MDAs) and extending coverage to the private sector and Non-Governmental Organizations.

(iii) Establish how effective the various *methods of mainstreaming* and *policy instruments* have been in facilitating mainstreaming of environment and from this,

(iv) Assess the scope for improvement lessons for MKUKUTA II, including the human capacity requirements for improving the effectiveness of environmental policies at the levels in (ii).

The main period of analysis is between the end of the 1990s (first PRSP) and today, that is, the final year of the first MKUKUTA I (2005/06-09/10).

Specific tasks include:

(i) To assess progress made (successes and/or shortcomings) towards mainstreaming environment into various sectors, Local Government Authorities, private sector and Non-governmental Organizations (NGOs). The assessment shall use key monitoring indicators, where possible and relevant, disaggregated by key environmental problems and geographic location.

(ii) To identify strategic areas which lacked progress and factors which acted as inhibitors and suggest how they could be addressed

(iii) To assess the effectiveness of approaches used in mainstreaming environment at all levels.

(iv) To make an analysis of the lessons learnt and key challenges encountered.

(v) To assess the key capacity development and institutional strengthening needs for achieving national development objectives and Millennium Development Goals (MDGs) related to environment

(vi) To provide a set of recommendations and propose way forward for strengthening the mainstreaming and key outcomes.

1.3 Methodology

The assessment involves collection and analysis of secondary information from the respective institutions and consultative meetings with relevant authorities. The key documents covering environmental issues include the National Environmental Policy (six

environmental Problems+Climate Change); MKUKUTA I; National Environmental Management Act 2004; and National Plans and Strategies for Implementing Multilateral Environmental Agreements. They provide a guide on the scope of environmental mainstreaming and key policy instruments for integrating environment into the growth and poverty eradication process.

MKUKUTA and MKUZA monitoring systems have been producing various outputs such as MKUKUTA Annual Implementation Report (MAIRs) through various working groups such as Research and Analysis Working Group (RAWG) and Survey and Routine Data Group. Furthermore, various stakeholders such as Development Partners (DPs), private sector and Civil Society Organizations (CSOs) have produced various outputs on different occasion during the course of implementation to assess progress.

Collection and review of these documents as well as studies and reports on experiences of other countries and international environmental practitioner agencies form the first level of the analysis. Lack of a quantitative indicator of the extent or degree of mainstreaming of environment is a major limitation of a policy study of this nature. Only improvised qualitative indications, describing steps or activities are attempted. Indicators of successful mainstreaming include evidence of inclusion of poverty-environment linkages in national development and poverty reduction strategies[1], and strengthened capacity in key sector ministries to include environmental sustainability into their strategies and improved livelihoods and access to environmental and natural resources for the poor.

The second level is consultation with key local and international institutions. Consultations (through presentation of the different stages of the report) have the advantage of eliciting first hand information on what is working/is not working. The aim is to validate the analyses and deepen our understanding of the problems and prospects of further integrating environment into the planned activities of MDAs and other economic agents.

[1] The details of these can be found in the MKUKUTA Matrix

1.4 Organization of the Report

The introduction is followed by Section II which makes an overview of the extent of environmental mainstreaming before and during MKUKUTA I, prefaced by background narrative of the ascendancy of environmental mainstreaming in the developing countries and in Tanzania's policy frameworks. It also presents the main institutional framework and policy instruments for environmental management in Tanzania. Section III points out major initiatives during MKUKUTA I. Section IV draws lessons of experiences to inform MKUKUTA II. It has two parts, the first part discusses the strengths which are qualified while section two discusses the limitations for Environmental Mainstreaming, suggesting at the same time what needs to be done to improve on the qualified strengths and weakness. Section V will put together conclusion and recommendation.

2. Policy and Institutional Framework for Mainstreaming in Tanzania

2.1 Ascendancy of Environmental Mainstreaming Agenda

Environmental concerns mean the same for all countries with differences only in the details given by country-specific circumstances such as the natural resource endowments and dominant economic activity (e.g. agricultural versus industrial economies). Tanzania's commitment to environment and natural resources (ENR) protection has historically been linked to global commitments on sustainable development, including the United Nations conventions on sustainable development such as the UN Conference on Human Environment 1972, UNCED 1992, the Millennium Declaration in 2000 and the 2002 World Summit on Sustainable Development (WSSD) which exhorted the international community to integrated and global response to poverty and environmental decline. The global approach was prompted by observed erosion of the capacity of the planet to sustain humanity due to human activities that degrade agricultural land, diminishing forestry and fishery resources, deplete clean water sources and biological diversity, and contribute to global warming (Melnick et al., 2005). Commitment by all nations owes to the fact that actions by an individual country can inflict indiscrete harm to many more countries, hence the importance of integrating multi-lateral commitments and opportunities on environment into national policies and sector strategies through partnerships involving exchange of expertise.

An initiative in the UN the *Millennium Declaration which gave birth to the MDGs* and the universal commitment to the centrality of environmental sustainability is particularly reckonable. Table 1 depicts a variety of ways in which environment is linked to poverty reduction and MDGs, specifically Goal 7 although in fact the attainment of other MDGs directly or indirectly is associated with attainment of environment sustainability.

Table 1 Environment and the Millennium Development Goals

	Millennium Development Goal	***Examples of links to the environment***
1	Eradicate extreme poverty and hunger	Livelihood strategies and food security of the poor often depend directly on health ecosystems and the diversity of goods and ecological services they provide.
2	Achieve universal primary education	Time spends collecting water and fuel wood by children, especially girls, can reduce time at school.
3	Promote gender equality and empower women	Poor women are especially exposed to indoor air pollution and the burden of collecting water and fuel wood, and have unequal access to land and other natural resources.
4	Reduce child mortality	Water related diseases such as diarrheal and cholera kill an estimated 3 million people a year in developing countries, the majority of which are children under the age of five
5	Improve maternal health	Indoor air pollution and carrying heavy loads of water and fuel wood adversely affect women's health and can make women less fit for childbirth and at greater risk of complications during pregnancy.
6	Combat major diseases	Up to one-fifth of the total burden of diseases in developing countries may be associated with environmental risk factors-and preventive environmental health measures are as important and at times more cost-effective than health treatment.
7	Ensure environmental sustainability	Current trends in environmental degradation must be reversed in order to sustain the health and productivity of the world's ecosystems.

Sources: DFID, EU, UNDP, World Bank (2002)

It is for this reason that many countries including Tanzania began *integrating environmental* concerns into their planning frameworks, building on the environment-related concerns associated with the productive activities in the natural resources-based sector/sub-sectors such as agriculture, forestry, mining, fishing and for which international conventions were more established. The growth of the industrial and urban settlements, mostly unplanned or weakly regulated, have also highlighted a host of environment and health-related effects such as health and natural disasters (e.g. due to flooding), air and even noise pollution.

Countries and national and international non-state actors carried out incisive analyses of poverty-environment causal links in the developing countries. In the developed countries environmental concerns of different scales were also coming under close scrutiny,

particularly in the way they affect the world e.g. the Chlorofluorocarbons (**CFCs**), and the way consumption in the developed countries and environmental standards affect external trade opportunities of the poor countries. Increasing awareness thus prompted the developing countries into putting in place environmental management institutions at national and sub-national levels, devising new policy measures and policy instruments and exploring environmental indicators to assist in setting targets.

Syntheses of country experiences are now providing lessons on the "drivers" of environmental mainstreaming in developing countries including (e.g. Parnell 2000; NEMA 2007; UNDP-UNEP 2008a, UNDP-UNEP 2008b, Dalal-Clayton and Bass 2009, for countries like Tanzania, Kenya, Uganda, Rwanda, India, Bhutan, Mozambique and others) (Box 1).

BOX 1: DRIVERS OF ENVIRONMENTAL MAINSTREAMING

Major drivers
- Increasing stakeholder awareness & demands
- National legislation & regulations
- Values of progressive organizations
- Donor conditions and initiatives

Moderately important drivers
- International commitments
- Major environmental events and disasters (e.g. floods)
- Company/business plans & objectives, regulations / requirements
- Risk management
- Traditional cultural reasons

Other drivers
- Visible 'real' issues
- Link between development/poverty reduction and environment
- Requirements of clients
- EU accession and approximation process
- Membership of international business groups (that embrace E M.)
- Desire to address rising poverty and inequality
- Need to protect ecosystems and stem environmental degradation

Source: Dalal-Clayton and Bass (2009, p. 54)

The poor countries undertook environmental mainstreaming activities almost at about the same time as the Poverty Reduction Strategy Paper (PRSP) approach spearheaded by the international financial institutions was becoming fashionable.

Though many mainstreaming activities were carried out at central government level in collaboration with Development Partner through financial and technical support, *initiatives* by independent think-tanks undertook, often in collaboration with government, research and evaluative projects with the goal of inducing inputs into poverty reduction strategies, developing poverty-environment indicators. Also appropriate formats for environmental impact assessments and environmental policy instruments such as user charges for water and charges related to exploitation of fisheries and wildlife resources were induced (Dalal-Clayton and Bass 2009).

Recent reviews of country experiences, however, reveal that progress in mainstreaming environment still faces a number of constraints (UNDP-UNEP 2008b, Dalal-Clayton and Bass 2009). Referring to the fact that environment has had a short history of presence in mainstream (traditional) policy setting, both into development partnerships funding (Marsden 2006) and in developing countries (Marsden 2006, Dalal-Clayton and Bass 2009) the first limitation was largely a conceptual one, with policy makers and planners feeling low pressure or need to assign weight to environment in the quantitative macroeconomic and sectoral policy frameworks. When this was finally overcome, there was slow political will in many instances to accepting environment as a key variable in policy making for sustainable development. As this there followed the painstaking search for appropriate approach and assortment of environment and natural resources issues and matching indicators to be build into the development strategies. The limitation was found in lack of proper database and limited skills and institutional capacity at country and sub-national levels. It also meant non-existence or limited availability of poverty-environment indicators. The early roles of DPs and emerging champions of environment within government of developing countries gradual acceptance of environmental issues as critical for sustained growth and reduction of many dimensions of poverty.

2.2. "Entry Points" for Environmental Mainstreaming towards MKUKUTA I

Tanzania followed this trend. As the second generation PRSPs came around, more concrete and home-adapted agenda and guidelines for integration of environment into development programmes were designed. Thus the early *entry points* as institutional framework linked the

Division of Environment (DoE), (shifted from then Ministry of Natural Resources, Environment and Tourism to the Vice-President's Office), and the National Environment Management Council (NEMC) (established by Act of Parliament No. 19 of 1983). This was consonant with the motive underlying the National Environment Action Plan (NEAP) of 1994, the National Environmental Policy of 1997, and the Environmental Management Act 2004 (EMA) (assented by the President on February 2005) of establishing institutions responsible for systematic monitoring of the state of environment and fill information gaps on environment. The first three-year PRSP (URT 2000) did include environment as one of the policy concern, but the government and DPs invested more heavily into environmental mainstreaming in the subsequent framework, the MKUKUTA I through more concrete and home-adapted agenda and guidelines than had been in the past. The VPO championed the work of consolidating the rise of "environmental activism" into actionable interventions through the *Guide and Action Plan to Mainstreaming Environment into the Poverty Reduction Strategy Review (URT 2004a)*.

Providing clarity was one of the key steps in getting the environment and natural resources (ENR) appreciated by actors in different sectors. With this step emphasis was on showing ways through which environmental resources are related to livelihoods, health and economic growth. The purpose was to limit the negative effects or amplify the benefits of measures to forestall the damage to environment. Assey *et al*. (2007) termed this as "the awareness transition". This knowledge-building transition drew on the National Environment Policy was further supported by technical and research support from DPs (UNDP-UNEP 2008a, UNDP-UNEP 2008b, World Bank 2005, DFID 2004) and local academic and non-governmental institutions involved in environment advocacy. Examples of critical analytic work that fed into the MKUKUTA I drafting process included the Tanzania Participatory Poverty Assessment (TzPPA), the first Public Expenditure Review for environment (VPO 2004), UNDP background technical and financial support (UNDP 2002, UN 2001). Work was also carried out on *the poverty-environment indicators* for use in poverty monitoring.

The policy documents assisted in the learning process in terms of content development in participatory manner including implementation plans for most of the policies. Appendix

Table A1 shows a number of sector policy documents.[2] Awareness was also raised about loss of government revenue from degradation of forest, fisheries and wildlife resources. Corruption and weak enforcement of rules and regulations led to wanton and destructive exploitation of forestry, wildlife and fishery resources and loss of government revenue and foreign exchange as a result of smuggling and illegal exports.[3]

The launch of the MKUKUTA I (mid-2005) showed that the level of environment mainstreaming was much higher than in the previous PRSP. Box 2 shows the three major clusters of MKUKUTA I in which environment interventions are more direct. The MKUKUTA I annex provided more details of cluster interventions, by MKUKUTA I Goals/ and Targets for use by government, non-state actors such as civil society, private sector and development partners. There were at least 15 targets directly related to environment and natural resources in Cluster I aiming to support sustainable growth. The targets included reduced negative impacts on environment and livelihoods; reduced land degradation and loss of biodiversity; increased sustainable off-farm income generating activities; and increased contribution from natural resources (fisheries, wildlife, mining etc).

[2] Immediate examples include the National Environmental Policy (1997), the National Climate Change Adaptation Plan (2006), the National Biodiversity Strategy and Action Plan (2000), and the National Action Plan to Combat Desertification (1999), Coastal Biodiversity Conservation Strategy (1995), the National Environment Action Plan (1994) and the National Plan for Agenda 21 (1993).

[3] Tanzania was not unique, DIFD, EU, UNDP and World Bank (2002:34), for instance, cite a similarly problematic case of corruption in the Cambodian forestry sector.

Box 2: MKUKUTA I Major Clusters where environment features prominently

Cluster I: Growth and Reduction of Income Poverty
Broad outcomes:
→Broad based and equitable growth is achieved and sustained
Goals:

- Ensuring sound economic management
- Promoting sustainable and broad-based growth.
  - *Reduced negative impacts on environment and peoples' livelihoods.*
  - *Reduced land degradation and loss of biodiversity*.
- Improving food availability and accessibility.
- Provision of reliable and affordable energy to consumers

Cluster II: Improvement of Quality of Life and Social Well-Being
Broad outcomes:
→Quality of life and social well-being, with particular focus on the poorest and most vulnerable groups improved
→Inequalities in outcomes (e.g. education, survival, health) across geographic, income, age, gender and other groups reduced
Goals:

- Improved survival, health and well-being of all children and women and of specially vulnerable groups
- Access to clean, affordable and safe water, sanitation, decent shelter and a safe and sustainable environment and thereby, reduced vulnerability from environmental risk.

Cluster III: Governance and Accountability
→Good governance and the rule of law are ensured

Source: URT (2005)

Under Cluster II, environment-related interventions contributed to access to clean affordable safe water, sanitation, decent shelter and other interventions to reduce vulnerability to environmental risks. The operation targets for sanitation and waste management included increased access to improved sewage facilities from 17 percent in 2003 to 30 percent in 2010 in respective urban areas, adequate basic essential utilities and reduced water related environmental pollution level from 20 percent in 2003 to 10 percent in 2010. In this cluster the focus is to reduce harmful industrial and agricultural effluents, vulnerability and increase environmental conservation. It can be noted also that in cluster III there are no direct environment-related operation targets, but one could infer this in goal number 2 which requires ensuring equitable allocation of public resources with corruption effectively addressed. More emphatic is specific requirement to "Develop effective mechanisms to ensure equitable access and use of environment and natural resources especially for poor and vulnerable groups". Under Cluster III, good governance and accountability requires that laws ensure the poor have equitable access to and control over natural resources and conflicts over use of natural resources are forestalled and illegal exploitation of resources curtailed.

The main *challenge* is to have a critical assessment of the attainment or otherwise of the targets under MKUKUTA I looking forward to MKUKUTA II. Such an analysis requires:

(i) A reflection on the implementation of the arrangements provided in the Matrix which lined up different actors for sets of goals. The critical question is whether or not the anticipated collaboration took place and if so which of the poverty-environment indicator(s) changed.

(ii) For MKUKUTA II it might be useful to ask, based on (i), if the Matrix provided a good guide to the planning and implementation of environmental interventions.[4] In any case the matrix suggested possible combinations which would display synergic action and more efficient attainment of the goals. In practice, however, this was problematic as pointed out during consultation with the sector ministries. Many actors pursued environment target by focused largely on their individual sector mandates, only doing their best to toe the institutional linkages provided by the Institutional Framework for Environmental Management (e.g. reporting requirements).

(iii) Implementation at local government level remains of interest due to the knowledge and capacity gaps that are relatively more severe there than at central (sector MDAs and non-state actors mainly located in urban areas)

2.3 Institutional Framework for Environmental Management

The institutional set-up for environmental management is anchored at the Ministry of State responsible for Environment where DOE coordinates the various environment management activities, advising government on legislative and measures for implementation of international agreements on environment. DOE also is monitoring and assessing environmental management and providing early warning on impending environmental problems. DOE prepares the S*tate of the Environment Report*, and coordinates and articulates environmental issues in other sector policies and implementation of the National

[4] It is plausible that the same question applies to other non-environment actions that are indicated in the Matrix for collaborative actions.

Environmental Policy. EMA 2004 specifies the roles and responsibilities of different levels and responsibility-relationships as indicated in Figure 2.

NEMC reviews, approves and monitors Environmental Impact Assessments (EIA), and enforces compliance to quality standards and initiates procedures and safeguards against accidents that may cause environmental degradation. NEMC is also expected to undertake environmental education and public awareness in collaboration with relevant sector Ministries, including publication and dissemination of manuals, codes and guidelines on environmental management and protection. NEMC's portfolio may also directly relate to villages, *mtaa*, ward, district, regional and sector levels in its roles of conducting surveys, research, investigation, dissemination and public awareness, enforcement of codes or guidelines, standards, cooperation with sectors, communities, technical support etc.

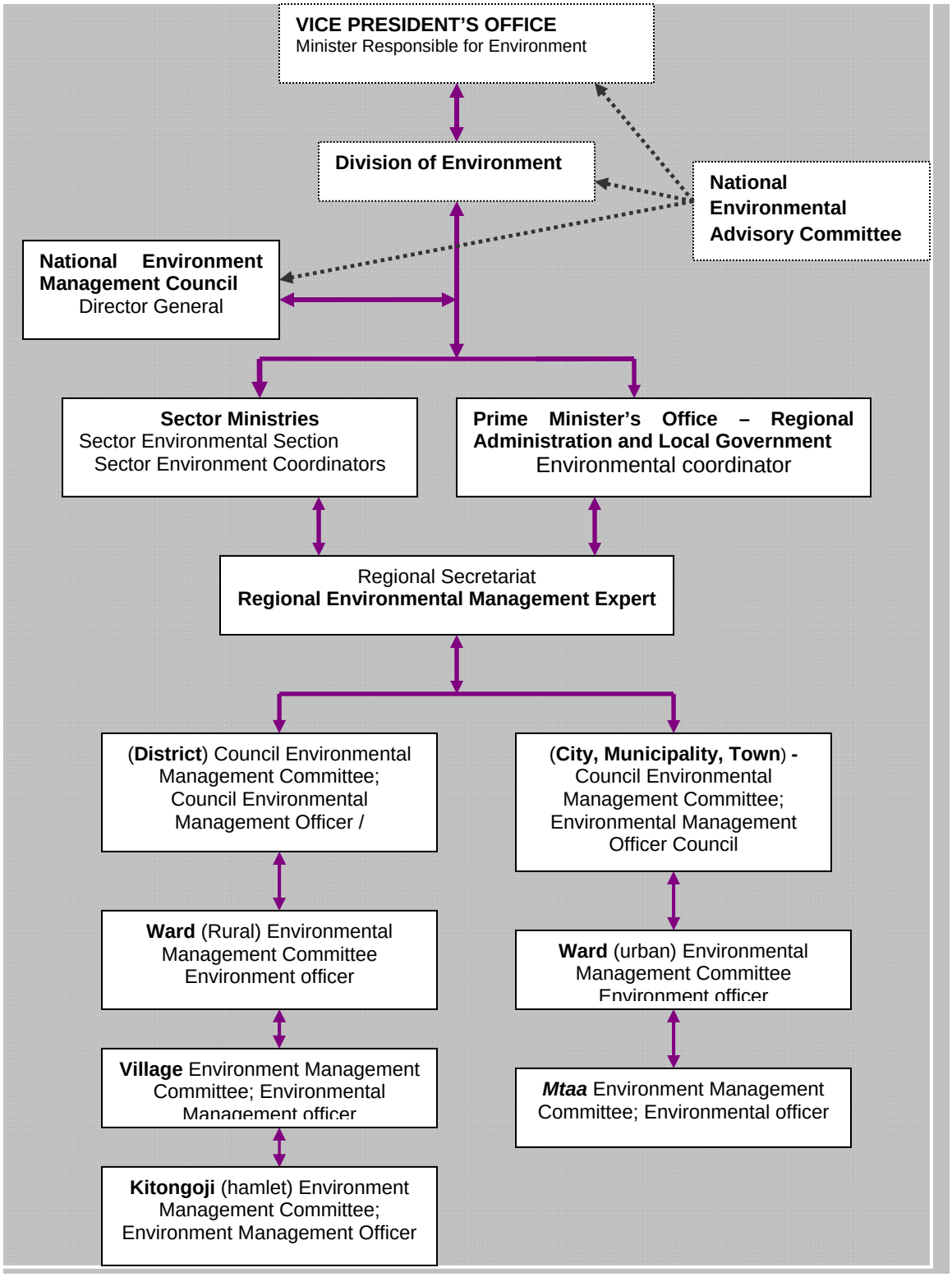

Figure 1: Institutional Arrangement for Environnemental Management

Each Ministry should have Sector Environmental Section to ensure that the Ministry complies with the requirements of EMA 2004. The section liaises with DOE and NEMC on all matters involving environment. Each sector has to integrate environmental concerns into the MDA's planning and projects, recommend relevant legislation and coordinate all activities related to environment and report on these. At the regional level, the Regional Secretariat is responsible for co-ordination of all matters of environmental management in the region. There is expected to be a Regional Environmental Management Expert who will also advise the local government authorities (LGAs) on the implementation of EMA 2004

At the LGA level, each City, Municipal, District and Town Council has to have an Environmental Management Officer whose main tasks are to oversee the implementation of EMA 2004, advise (the City, Municipal, District and Town Council) Environment Management Committee, promote awareness on environmental issues most pertinent in the area, gather information on the environment and natural resources utilisation and prepare reports on the state of environment in the area. The Environmental Management officers also monitor the preparation and approval of EIAs for local investments. It is further directed that Environment Management Committees are established in villages (and *kitongoji*), township wards and *mtaa,* where Environmental Management Officers and respective Environmental Management Committees will link communities and districts.

Effective implementation for each level has been predicated on the availability of well-trained and motivated personnel, financial resource and accurate and timely flow of information within the network. It would also depend on "harmonious" working relationship between environmental officers and government officials and local communities in urban and rural areas. However, shortfalls on each of these factors turn out to constitute some of the hardest implementation set backs – that is inadequate personnel with expertise in the field especially at the local government level, budgetary constraints (at central and local government levels). Further, the working relationships between central government ministries responsible for environment and natural resources issues need indeed to be improved in terms of communication, level of participation in key choices of projects and programmes located in urban and rural councils which have consequences on environment and livelihood systems of the local populations. Otherwise, understanding of the EMA itself

at all levels, that is, MDAs and LGAs, private firms and communities, remains a challenge that must be picked through continual environmental education and enforcement of the Act.

2.4 Policy Instruments for Environmental Management

Legislation, particularly, EMA (2004) provides for frameworks for Environmental Impact Assessment (EIA), Strategic Environmental Assessment (SEA), economic instruments, environmental standards and application of precautionary principle as key priority policy instruments for environment management. SEA which is provided in the EMA 2004 is a systematic, proactive process for evaluating environmental effects in the holistic manner – covering social, biophysical, political and economic consequences.

The EIA procedures involve registration, screening, impact assessment, reviewing, permit decision, monitoring, auditing and decommissioning. NEMC in consultation with a cross-sectoral Technical Review Committee (TRC) where necessary decide on the appropriate level of environmental assessment. Factors considered include project location and scale, applied technology, public concerns, land use considerations, environmental impacts and any other factors relevant to the particular project.

Increasing awareness on environmental effects of unplanned and unregulated investments was reflected in the requirement that major FDI projects undertake Environmental Impact Assessments (EIAs) before construction. Big projects such as those in mining, oil and natural gas sub-sectors, tourism projects in wildlife parks and coastal areas had to undertake IEAs to qualify for guarantee by the Multilateral Investment Guarantee Agency (MIGA) (CUTS and ESRF 2004). Besides, civil society organisations have also added their voices to demands for public participation in the assessment with admonition about possibilities of biased assessments (Hughes 1998). Limitations to the Tanzanian side which might lead to acceptance of projects that are not necessarily beneficial to the interests of the country's population may include limited "disclosure" of the environmental impacts and consequences to the livelihoods activities to the population in the project location (due to dominance of the proponent) or weak articulation of the environmental law. Besides the critical media, a

number of civil society and community-based organisations that keep a "third eye" on environment are many and varied.[5]

Economic instruments operate through market mechanisms affecting price levels, costs to direct firms and household behaviour towards environmentally-friendly practices in production and consumption of goods and services. Examples of economic instruments include charge systems, liability rules and specified permits. Other instruments cover property rights, subsidy and information programmes. Rarely is the use of economic instruments clearly specified or used; the instruments need to be sharpened.

A number of companies and prospective investors have been complying with the requirement of conducting EIA prior the investment and abide to it during the production process. By 2007 there were 26 companies registered as complying with the EIA standards (URT, 2008). However, not in all cases are regulations followed; hence the continued need of the oversight role of the NEMC.

Regarding standards, EMA 2004 requires the government to formulate environmental quality standards, for instance, on water quality, standards for discharge of effluent into water, air quality standards, standards for the control of noxious smells, standards for control of noise and vibration pollution, standards for sub-sonic vibrations, standards for minimization of radiation and soil quality standards. Environmental Standards and Indicators make it possible for management to provide early warning relating to the potential environmental problems and make possible effective application of economic instruments to manage the environment. Indicators need to be defined, for example, on land-use conservation ratios (rural/urban, wetland/agriculture, etc) to make possible determination of ecosystems ability/resiliency/diversity relationships and evaluation of economic development strategies affecting natural resources. These standards, largely in the custody of NEMC need to be

[5] Some of the Key NGOs and CBOs dealing with Environmental Issues would include (to mention a few***),*** Agenda for Environment and Responsible Development, Appropriate Technologies and Environmental Conservation Society, Association of Tanzania Travel Operators, The African Conservation Foundation, Dodoma Environmental Network, Environmental Professionals Organization (EnvriPro), Inades Formation Tanzania, Journalists Environmental Association of Tanzania, Kilimanjaro Environmental Development Association, Tanzania Association of Non-governmental Organizations, Tanzania Hunting Operators Association, Tanzania Traditional Energy Development and Environmental Organization, Wildlife Conservation Society of Tanzania, Kagera Agricultural and Environmental Management Programme

continually updated and one in which expertise of high level (engineering sciences) is in short supply in Tanzania (Table A2a).

Finally, since knowledge of environmental impacts is often incomplete and some impacts only give demonstrable effects after a long time, the precautionary principle, i.e. "it is better to be roughly right in time, than to be precisely right too late", is usually pursued. In certain cases action may be taken to protect and enhance environmental integrity even without complete knowledge of the causes and effects involved, or without waiting for more substantial proof of the damage. This tool is provided in the National Environment Policy, 1997. For example at the global level, nations are relating various environmental natural hazards such as cyclones to global warming and thus taking precautions to reduce *further global warming. The steps taken by government during the period of MKUKUTA I regarding climate change and emphasis on actions against desertification are a case in point.*

3. Major Issues and Progress on Mainstreaming Environment during MKUKUTA I (up to 2009)

During the implementation of MKUKUTA I further activities went on that are worthy recognizing because they add up onto the lessons learned for MKUKUTA II. Mainstreaming activities on the part of government continued through policy guidelines or directives. The initiatives mentioned hereunder are <u>not</u> new, only that they demonstrate significant step worthy recognising.

3.1 Climate Change

Climate change or the greenhouse effect refers to the phenomenon whereby carbon dioxide (CO_2) and other gases trap long-wave radiation (heat) in atmosphere, thereby, warming the earth. The major sources of CO_2 are the combustion of fossil fuels, such as oil, coal and gas; CO_2 is also produced naturally by decay. The concentration of CO_2 in upper atmosphere has increased from 280 parts per million (ppm) to 355ppm for about 100 year ago (IPCC, 2001). According to the United Nations' panel of climate experts, Africa, including Tanzania, is "highly vulnerable" to the impacts of climate change "because of factors such as widespread

poverty although Africa has contributed least to potential climate change because of its low per capita fossil energy use and hence low Greenhouse gas emission.

There are three major channels through which climate change will impact the MDGs: (i) long-term changes in temperature, precipitation and sea levels; (ii) increased temperature and precipitation variability; and (iii) more frequent extreme weather events. These channels are not distributed uniformly across the world and within the same region and country. East Africa is predicted to warm by about 2 - 4 Cº by 2100, somewhat less than the Mediterranean north-western Africa and the inner South Africa. The inner parts of East Africa and Tanzania are predicted to experience higher temperature increases than the coastal areas. Rainfall is predicted to decrease by about 0–20 percent in the inner parts of the region and the country, with dry season(s) becoming longer and having less rainfall. In contrast, rainfall is predicted to increase by 30-50 percent in the coastal areas.

Tanzania will also obviously face a number of other climate change impacts. For example, reduced runoff will diminish river flows and decrease the availability of water for irrigation and electricity generation. Droughts could reduce the country's potential in hydro-energy production affecting economic growth and poverty reduction. Signs of adverse effects of climate change on hydro-power generation are already visible. Declining water level in Mtera Dam (from 695.8 m in 2003 to 688 m in March 2006) and in the *Nyumba ya Mungu* Dam (from 686.2 m in 2003 to 680 m in (2005) have been witnessed. This is a threat investment and growth of the economy and achievement of MDG1, 2, 8 and the rest indirectly. Another area affected by climate change and having implications for achieving MDGs is coastal and marine resources. Tanzania's wildlife is also under threat of ecosystem fragmentation, over utilization of resources and conflicts between agriculture and wildlife, many of which are somehow related to climate change. Persistent drought due to increasing temperatures and changing rainfall patter is expected to affect the lifestyles of most of the migratory wild species, in particular the wildebeest and some bird species disrupting the ecological balance and also affecting tourism.

The adaptation options available address climate risks directly through climate proofing infrastructure and investment to building the resilience of the government and household to

respond to climate change. According to IPCC Fourth Assessment Report (2007), there was a high level of agreement and much evidence that there was that 'there is substantial economic potential for the mitigation of global greenhouse emissions over the coming decades that could offset the projected growth of global emissions or reduce emissions below current levels. In Tanzania some adaptation on and mitigation options are being implemented at different levels and sectors.

In order to mitigate the root causes of climate change, Tanzania has adopted a number of measures, including development of some policies, strategies and legislations that are aimed at reducing the vulnerability of natural systems, human population and economies to climate stresses and climate change, including development and implementation of initiatives that promote equity and sustainable development and consideration of climatic risks in the design and implementation of national and international development initiatives. Some of the policies/strategies/legislature geared towards mitigation of causes of climate change includes Environmental Policy, Environmental Management Act and the National Adaptation Programme of Action. The government has also developed the adaptations strategies which include Good Governance and political stability, Intensification of the early warning systems, Mainstreaming Environment into MKUKUTA, sector and Local Government Plans and budgets etc.

Table A2a is extracted directly from the Guidelines draft (URT 2006a) and summarize issues that MKUKUTA II needs to carry a step further, being mainly *brown* environmental issues. These include air quality, desertification, urban pollution, bio-safety, chemical pollution and climatic change and adaptation.

In April, 2006 the government launched the country-driven *National Strategy on Urgent Actions to Combat the Degradation of Land and Water Catchment Areas in Tanzania* in order to stem desertification due to unsustainable livestock keeping/pastoralism and agricultural practices that aggravate land degradation, water catchment areas and the erosion of the otherwise rich biodiversity of Tanzania.[6] (see URT 2006 for details Table A2b). These

[6] A Cabinet Committee on Environment, comprising of all key sectors (Vice President's Office, Ministries of Lands, Housing and Human Settlement; Forestry and Natural Resources; Agriculture, Cooperatives and Food Security; Finance; Planning and Economic Empowerment; Water; Livestock; Local Government; and

measures which are also included in the Tanzania National Adaptation Plan of Action (NAPA) represent an effort and manifestation of a step to deepening mainstreaming the environment.

In addition to the national initiative, Tanzania continues working within the framework of international agreements and use of such facilitation as the *Guidelines for Mainstreaming Post Rio Conventions*, and integration of the UN Framework Convention on Climate Change into Sector and local Government Authorities' Plans and Budgets. This will raise stakeholders' understanding and preparedness for the challenges of integrating climate change in their respective development programmes and poverty eradication processes (URT 2006c).

3.2 Public Finance and Environmental Mainstreaming

Three aspects are worthy noting about public finance management for environment as experienced during the implementation of MKUKUTA I: (i) the scope of funding of environmental priority actions that have been identified and budgeted (i.e. to what extent were the financed?) (ii) taxes for environmental protection and (iii) allocations for environment relative to other cross-cutting issues. These are discussed in turn below.

3.2.1 Scope of Funding of Environmental Priorities

Allocation to MDAs

The first relates to the translation of the environmental priorities into national plans and budgets. This has been one of the challenges for the implementation of interventions at all levels. Sectors have to cost and seek budgetary resources for implementing of natural resources and environment protection interventions. The budgetary requirements included in the plans and budgets of sector MDAs and local government are then tabled for financing by central government and donor support mostly through general budget support. It all depends on whether or not they are articulated at all in the sector or LGA plans and budgets. Progress in direction has been slow, but the allocations depicted by Table 2 indicate accumulated

Community development) was formed to provide general oversight and guidance over environmental protection and to monitor the progress in the implementation of the Strategy.

experience since the launch of the EMA Implementation Support Programme along with different Guidelines championed by the DOE and NEMC that have enabled MDAs to integrate environmental protection actions in their plans and budgets. According to EMA Implementation Support Programme (URT 2007:25-26), few ministries had made efforts to integrate environment into their sector policies, plans, programmes, legislation and regulations. These include mining, road and infrastructure and agriculture. Others sector policies that were poised for review to incorporate environmental concerns include water, lands and human settlement and livestock development.

Table 2: Budgetary Allocations for Environmental Actions in Different Ministries 2007/07-09/10

Budgetary allocation into Envoronment (Tshs)

	2006/07 Actual	2007/08 Actual	2008/09 Approved estimate	2009/10 Estimates
VPO (Environment)	**7,924,255,000.00**	**9,512,925,873.0**	**13,428,518,000.0**	**8,893,887,900.0**
MoAFSC	**641,138,250.00**	**545,330,000.00**	**7,442,756,800.00**	**73,167,633,570.00**
Cleaner Intergral utilization of Sisal waste	491,138,250.00	467,910,000.0	238,133,400.0	226,000,000.0
Lake Victoria Envirоonment Mgat Project	100,000,000.00	77,420,000.0	7,204,623,400.0	72,470,233,570.0
Soil and Water Conservation	50,000,000.00	0.0	0.0	471,400,000.0
EMA implementation support Programme	0.0	0.0	0.0	0.0
MITM	**0.0**	**0.0**	**75,000,000.0**	**71,000,000.0**
Urban Development and Environmental Mgt.	0.0	0.0	75,000,000.0	71,000,000.0
MoEVT	**0.0**	**0.0**	**70,000,000.00**	**70,000,000.00**
Support to Environment Improvement	0.0	0.0	70,000,000.0	70,000,000.0
Ministry of Lands	**0.0**	**0.0**	**75,000,000.00**	**71,400,000.00**
EMA implemetation support programme	0.0	0.0	75,000,000.0	71,400,000.0
Ministry of Water and Irrigation	**224,978,599.0**	**20,518,550,000.0**	**13,686,600,000.0**	**24,798,500,000.0**
EMA implemetation support programme	0	0.0	135,000,000.0	323,500,000.0
Water Quality and Ecosystem Mgt	0	2,456,000,000.0	1,371,000,000.0	3,110,000,000.0
Dvt and Mgt of Water Resources	224978599	18,062,550,000.0	12,180,600,000.0	21,365,000,000.0
Ministry of Home Affairs	**0.0**	**0.0**	**100,000,000.0**	**75,000,000.0**
EMA implemetation support programme	0.0	0.0	100,000,000.0	75,000,000.0
PMO-RALG	**0.0**	**204,774,000.0**	**234,885,000.0**	**333,792,000.0**
Participatory Forest Mgt	0.0	136,664,000.0	234,885,000.0	333,792,000.0
Land Mgt Program	0.0	68,110,000.0	0.0	0.0
Ministry of Energy and Minerals	**1,006,192,000.0**	**572,000,000.0**	**2,545,000,000.0**	**14,175,440,000.0**
EMA implemetation support programme	0	0.0	75,000,000.0	71,000,000.0
Sustainable Mgt of Mineral Resources	0	0.0	2,470,000,000.0	14,104,440,000.0
Energy efficiency and Conservation	1,006,192,000.00	70,000,000.00	0.0	0.0
Promotion of Renewable energy in Tanzania	0.0	372,000,000.00	0.0	0.0
Environmental Mgt of Kihansi Project	0.0	130,000,000.00	0.0	0.0
MoLEYD	**0.0**	**0.0**	**75,000,000.0**	**71,400,000.0**
EMA implemetation support programme	0	0.0	75,000,000.0	71,400,000.0
Ministry of Natural Resources and Tourism	**18,604,541,399.00**	**6,663,951,722.00**	**24,386,614,250.00**	**19,046,246,400.00**
Mgt of Natural Resources Program	1,950,000,000.00	0.0	5,993,450,000.0	0.0
Wildlife	1,584,000,000.00	1,161,062,222.0	7,311,096,710.0	6,647,031,800.0
Forestry and Beekeeping	6,470,541,399.00	5,502,889,500.0	11,082,067,540.0	12,399,214,600.0
Fisheries	8,600,000,000.00	0.0	0.0	0.0
Ministry of Infrastructure Development	**0.0**	**819,000,000.0**	**1,819,000,000.0**	**290,300,000.0**
Inst. Support to safety and environment Reform	0.0	819,000,000.0	1,749,000,000.0	215,100,000.0
EMA implementation Support Programme	0.0	0.0	70,000,000.0	75,200,000.0
Ministry of Livestock Development and Fisheries	**0.0**	**0.0**	**7,993,825,000.0**	**10,652,590,000.0**
Marine & Coast Environment Mgt Project (MACEMP)	0.0	0.0	7,993,825,000.0	10,652,590,000.0
Grand Total	**28,401,105,248.00**	**38,836,531,595.00**	**71,932,199,050.00**	**151,717,189,870.00**

Source: Extracted from Public Expenditure Estimates-Development Votes Books (Part A), Volume IV, (for the years July, 2008 to June, 2009 and July

Citing an example of the agricultural sector, it is noted that despite the fact that agricultural performance depends very much on the quality of the environment, no fund was set aside for the protection of environment or even to develop capacity within the Ministry of Agriculture, Food Security and Cooperatives (MAFC) to monitor the environmental status. Table 3 shows the financial requirements for the implementation of Agricultural Sector Development

Programme (ASDP) 2006-2013. The table gives an oversight for the programme with no budget allocation to cater for the environmental impact of the ASDP. The table shows that no funds have been allocated in the ASDP for environmental interventions. The implementation of ASDP with the intensification of agricultural production will have some negative effects on natural resources and the environment. For example, expansion of farmland may require clearance of forest areas and other environmental resources, which means a budgetary allocation should be set aside for mitigation and monitoring. Furthermore the use and disposal of pesticides and use of irrigation and fertilizers will also require budgetary allocation for the environmental impact. .

Table 2 Agricultural Sector Development Programme Financial Requirement (TZSs Million)

	2006/07	2007/08	2008/09	2009/10	2000/11	2011/12	2012/13	Total
A Local programme								
1. In short								
	4,56	4,744	4,919	5,100	5,288	5,483	5,686	36,795
	6,102	7,707	10,105	13,722	17,088	19,478	25,764	100,085
	13,738	148,428	151,405	255,513	263,567	324,987	335,779	1,4478,366
2. Services								
	16,004	17,486	17,954	18,083	16,083	15,855	15,733	117,590
	2,03	4,392	8,338	11,097	13,598	15,908	16,496	72,042
3. Capacity Building	2,999	3,086	3,148	3,264	3,384	3,509	3,639	22,909
	2,993,086	3,148	3,264	3,384	3,319	3,509	3,669	22,919
	95	1,139	1,377	86	618	682	682	6,433
	4,396	1,350	1,467	2,621	1,845	994	3,160	15,794
	643	1,369	1,518	1,950	2,097	2,174	2,474	12,225
Sub-Total Local Programme	**5,306**	**19,021**	**20,120**	**32,578**	**323,773**	**388,976**	**49,414**	**1,876,340**
B. National Programme								
1. Agricultural Services								
Research	11,744	14,305	15,361	13,439	13,580	13,087	12,776	94,312
	1,007	2,677	1,719	1,563	1,072	980	906	9,894
Livestock	786	889	812	284	144	70	50	3,084
	1,788	63,335	68,345	84,510	1,575	1,575	1,628	11,362
4.Food Security	388	1,199	1,230	1,236	1,255			5,308
Sub Total National Programme	**109,057**	**86,290**	**90,666**	**104,718**	**110,069**	**56,165**	**57,998**	**615,901**
	180,363	**276,261**	**29,887**	**407,296**	**433,783**	**46,140**	**467,412**	**2,412,141**

Source: MAIR 2008

Allocation to the Division of Environment (DOE)

DoE has been in charge of the overall coordination and has since 2006/07 reported a substantial increase in budget, staff and activities. The approved estimates suggest that DoE

recurrent budget from government sources has significantly increased from 1billion Tshs in 2005/06 to 5.7 billion Tshs in 2006/07. The 2006/07 budget speech was the first year that environmental issues were explicitly included as a priority issue. However there was a slight fall in the budget estimates for 2007/08 to Tshs 4.195 billion (Table 4).

Table 4: Recurrent Expenditure by the DoE: actual vs Approved Estimates, 2001/02-2007/08

Year	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07(estimate)	2007/08 (estimate)
Actual	1.44	0.88	0.83	0.92	1.145		
Approved estimate	0.56	0.7	0.82	0.885	1.08	5.675	4.195

Sources: Luttrell and Pantaleo, (2008)

DOE budgets make up 39 percent of the total estimated budget of VPO in 2007/08. In the VPO Medium Term Expenditure Framework (MTEF) for 2007/08, DoE was allocated 12.1 billion Tshs and NEMC 7 billion Tshs. Figures for the recurrent budget for NEMC suggest that NEMC's spending, though increasing substantially in amount, is decreasing relative to spending by the rest of the DOE. In 2004/05 expenditure for NEMC was 64 percent of the total DoE budget, but in 2006/07, the proportion dropped to 30 percent of the budget (Luttrell and Pantaleo 2008).

Initially, both MKUKUTA I and EMA 2004 focused at the national level although budget allocations are made directly to sector ministries which in turn decide the allocation for activities at the local level. Such resources are not channelled directly through the decentralized structures of LGAs, as LGAs have to make their own plans and budgets. Each sector ministry was required to implement EMA.[7] The problem with this directive is that though funds were set aside, but there was no clear guidelines and work plan for each specific ministry on how to carry out the implementation. The lack of work plan and specific targets means has been addressed by the EMA Implementation Support Programme.

MKUKUTA I and the EMA rely heavily local government and some of the MDAs' activities are environment-related, there is a chance that the MDAs and LGAs may find themselves

[7] More than 80 percent of LGAs budgets are largely transfers from central Government for operational costs. The coordination of urban development and environmental management falls under the Urban Authorities Support Unit (UASU) which is part of the Environment sub-section of the Economic and Productive Sector Section in the Sector Coordination Division of the PMO-RALG. The work of UASU has been supported by external sources through the Sustainable Cities Programme (SCP), mainly UNDP, UNHABITAT and DANIDA supported.

doing similar activities. However, in recognition of this weakness, NEMC has begun implementing the decentralization of policies and enforcement of environmental management laws by opening zonal NEMC offices in 2009. Nevertheless, the capacity for both DOE and NEMC to fully implement this is still inadequate due financial and human resources constraints.

The whole idea of mainstreaming through education and awareness-raising implies that there are actions by agents that do not necessarily entail direct costs – such as proper use of chemical inputs, proper ridging in agriculture, not starting bushfire (as examples from agriculture), actions that could save money as well as protect the environment in the end. Given increased scope for extending the mainstreaming activities to the lower (sub-national) level, work that has to be spearheaded by both DOE and NEMC, for all technical direction, it is anticipated that funding requirement will expand.

3.2.2 Taxes for Environment and Natural Resources Protection Outcomes

The second aspect is the noted progress towards applying tax instruments to induce desirable environment and natural resources protection outcomes. The interest is wide in the potential revenue generation through use of environmental fiscal reforms (EFR) as recent studies across countries (World Bank 2004), citing pressure for resource overexploitation combined with weak enforcement and poor governance that promote illegal logging and corruption. As Ikiara, *et al*. (2009) show that for Tanzania there is poor revenue collection from forestry resources, fisheries and wildlife due to under-pricing and cheating on actual data of extraction and exports. In OECD countries, 90 percent of revenue comes from environmentally-related taxes on vehicle fuels and motor vehicles, while the corresponding figures are Tanzania 7%, Kenya 6% and Mozambique 10% (Ikiara, et al. 2009).

The 2006/07 budget (Box 3) deployed a mix of taxes for environmental protection, a feature which is much more inclined for protection of environment than perhaps for revenue enhancement. This is a positive development which is supposed to be a permanent feature, flexibly adjustable for any new developments on the environment agenda.

BOX 3 HIGHLIGHTS OF THE 2006/07 TAXES FOR ENVIRONMENT PROTECTION

- Exemption from Value Added Tax (VAT) Liquefied Petroleum Gas (LPG) and LPG cylinders to encourage the use of gas; and reduction of the excise duty rate on kerosene (IK) from shillings 122 per litre to shillings 52 per litre to encourage the use of kerosene in place of charcoal and firewood with a view to preserving our environment;
- Increase of excise duty rates on plastic bags not banned, from the current rate of 15 percent to 120 percent with a view to protecting the environment; an excise duty of 20 percent on imported used non utility motor vehicles aged 10 years or more;
- Elimination of import duty on gas cylinders in order to promote the use of gas and protect environment;
- Exemption of all solar powered equipment and specialized accessories from import duty. The aim is to promote the use of alternative sources of energy given the current energy crisis in East Africa.
- Reduction of the duty rate on energy saving bulbs to zero percent. The measure is aimed at make efficient consumption of electricity.

Source: Extracted from Budget Speech 2006/07

So far, it is not clear how much has been collected and if the collected money was allocated for environment and natural resources protection or for other government uses as a normal tax revenue. Within this, the other aspect relates to revenue-generation activities while conserving/protecting natural resources and environment. More visible are sectors mining, tourism, fishing, construction (the paving of land). Tax and non-tax revenues are probably not fully exploited. This remains a source of concern for sustainable domestic revenue collection and an area for serious consideration in the MKUKUTA II.

Relevant questions remain as to how the collected revenue should be shared among different stakeholders (e.g. communities, local and central government), whether all revenue should be allocated through the central government budget or through more decentralised structures, or earmarking of revenue for different specific uses such as monitoring and law enforcement. This applies mainly for natural resources sectors.

3.2.3 Allocations Relative to other Cross-Cutting Issues

The third aspect relates to budget allocation of resources for cross-cutting issues , which environment has been in MKUKUTA I. Table 5 shows the allocation of resources to selected sectors that are critical for poverty reduction and economic growth including education, health, agriculture, water, roads, judiciary, HIV and AIDS and energy. This suggests that environment has not been perceived as a key sector that can play significant role in poverty reduction, unless it is argued that allocations for environment are those directed to the DOE

and NEMC. However, it is important to note, that the sectors mentioned in the table (except HIV/AIDS) are expected to include environment interventions in their plans and budgets, in order to maintain productivity and ensure sustainable utilisation of environment and natural resources for growth. The expenditure lines for environment interventions are not easy to identify in the table.

Table 5: Resource Allocation to Selected Major Sectors_2008/09

	Billion Tshs			Percent of total budget		
	Recurrent	**Development**	**Total**	**Recurrent**	**Development**	**Total**
Education	1,216.40	196.60	1,413.00	25.7	7.9	19.6
Health	457.00	286.60	743.60	9.7	11.5	10.3
Water	33.80	199.50	233.30	0.7	8.0	3.2
Agriculture	158.90	137.80	296.70	3.4	5.5	4.1
Roads	301.40	668.90	970.30	6.4	26.9	13.4
Judiciary	52.60	30.60	83.20	1.1	1.2	1.2
HIV/AIDS	19.10	87.90	107.00	0.4	3.5	1.5
Energy	43.70	335.20	378.90	0.9	13.5	5.2
Sub-Total	2,282.90	1,943.10	4,226.00	48.3	78.0	58.5
Others	2,443.80	548.00	2,991.80	51.7	22.0	41.5
Grand Total	**4,726.70**	**2,491.10**	**7,217.80**	**100.0**	**100.0**	**100.0**

Source: MAIR (2008)

The main reason is that the apparent reluctance of the government to give a budget code to the environment. HIV/AIDS as a cross cutting issue is having a code in the budget, but environment has not been given a budget code. Even though money might have been allocated for the environment is difficult or completely impossible to trace its expenditures and it is crucial that the government establish a budget code for the environment.

3.3 Recent Performance Audit

One recent development in the direction of deepening mainstreaming environment relate to performance auditing in respect of one of the key environmental issues in cities (squarely therefore on the shoulders of local government) (URT 2009b). The *Performance Audit on the Management of Solid Waste in Big Cities and Regions in Tanzania* is thus one of the lead reports which combines issues of accountability, but also the way the LGAs conduct execute environmental interventions (in this case – providing the solid waste management (SWM) for which they are allowed to (charge) a solid waste (SW) fee (under the Local Government Act (Local Authorities) No. 8 of 1982. The audit sought to establish the effectiveness with which this intervention was performed, considering that the LGA would be executed through or contracted out to private service providers. The report thus established variability in

performance and areas of weaknesses that need to be fixed, including lack of standards and issues for improvement including monitoring and evaluation. The under-performance may not discredit the intervention completely; rather it suggests that at the initial stages problems are enormous but such reports show entry points for remedial measures. And solid waste management is only one kind of intervention.

As is recommended towards the end of this report, environmental accounting and auditing are key areas where capacity is lacking, taking into account the fact that environmental problem vary from sector to sector.

4. Recommendations to Inform MKUKUTA II

4.1 Policy and institutional arrangement to support mainstreaming

Factors which facilitated the mainstreaming processes with collaboration and knowledge-sharing DPs and independent research think-tanks, NGOs, civil society and interface with private sector may now be identifies "good practices", with a caveat that they present a big challenge of maintaining them or doing better during MKUKUTA II. Bringing institutions (MDAs, LGAs, civil society, communities, individual households and private firms etc.) on board remains one of the strongest institutional arrangements for environmental mainstreaming. Ability to sustain interest and communication channels amongst interested parties is a key challenge upon which MKUKUTA II would be time-tested. The following represent some key process strengths which need to be kept in focus or improved upon further in connection with mainstreaming environment.

Box 4 lists ten *strength* points beginning with early mainstreaming attempts building on the entry points identified earlier, championed by national institutions and individuals as well as the support of DPs in the Environmental Working Group (EWG). It is fair to long that this "litany" remains as true today as it was in the beginning of the more intense activity in 2003/2005. For example, cross-sectoral forum is weak, difficult to assess expenditure on environment, weak integration of international policies. It is important that some of these areas still need further work in MKUKUTA II

Box 4: Ten Success Steps

…. The ingredients to success in Tanzania are the strong recognition that environment matters and the development of ten practical steps to mainstreaming:

1. Strong national group of stakeholders to champion environment.
2. Increased awareness on why environmental issues are of crucial importance to poverty reduction and achievement of MDGs.
3. Greater understanding of, and increased analytical work on, the links between poverty and environment including the contribution of environment to growth, livelihoods, government revenue, and importance to achievement of many of the MDGs.
4. Establishment of a cross-sectoral forum to work on environment that is led by government.
5. Review and strategic assessment of policies, plans and programmes for impact on environment and poverty.
6. Assessment of the levels of public expenditure on environment against contributions to growth and poverty reduction, and policy objectives.
7. Integration of environment issues and appraisal into planning processes, particularly at the local level (village and district).
8. Integration of multi-lateral commitments and opportunities on environment (e.g. Climate Change Convention) into national policies and strategies
9. Strengthened environmental management capacity of government, non-government and private sector, and development of sectoral guidelines on mainstreaming
10. Inclusion of poverty-environment indicators in local and national monitoring systems –including the PRS.

Source: Howlett (2006)

Most mainstreaming activities took place relatively more at the national level (centred in Dar es Salaam and at best regional and district headquarters), with intensive dialogue around themes and studies among MDAs, academia and DPs. There was less dialogue and interaction with agents at the sub-national level especially villages. Nevertheless it is important to take note of a few advantages which the process built on:

(i) There was, at the sub-national level, already some basic awareness, interest and minimum administrative capacity for the output of the EWG and other alliances involving DPs and local NGOs to be picked at the lower levels (e.g. through government or donor supported projects at community levels, and *village committees* that include subjects of environment for health – cleanliness of homestead compounds, roads and footpaths, guard against bush-fires on village land, land use patterns etc.).

(ii) The natural resource-based sector ministries were already operating in the districts. Examples include forestry, wildlife and fisheries sub-sectors for which by-laws were in place to protect the natural resources against wanton exploitation. In many cases the sectors employed experts as public servants at district levels responsible through regional officers to the ministries in Dar es Salaam.

(iii) A number of national policy strategies and programmes were picking up environmental aspects related to their areas of mandates (see Appendix 1).

(iv) *Interventions for environment at the Local Government Authorities* exploited the existing knowledge and local government institutional framework, the O&OD as a basis for institutionalizing the mainstreaming of environment into the local government plans and budgets all the way down to the village and *mtaa* level.

Recommendation 1: Public Awareness and Environmental Education

It may be time to review or take stock of these activities and determine gaps in terms of topics coverage, what sections of population, country or institutions need to be covered or re-visited during MKUKUTA II and beyond.

The government has recognized the power of public education and outreach efforts for awareness rising on citizen rights and obligations regarding natural resources and environment. The government has championed public awareness campaigns on the importance of environment in poverty reduction through mass media and public and private education and research institution.[8] Increasingly new civil societies have been established carrying out environmental action agenda and with others participating fully in environmental mainstreaming processes. Through education, the public understand their obligations to participate in decision making at central and local government levels, freedoms to monitor government performance on environment and natural resources protection (ability of media to blow the whistle, for instance) and demand compliance and environmental accountability from those put in charge of guarding the resources.

Environmental Education (EE) has long been carried out for many years through sector-oriented agriculture, forestry or community development outreach or extension programmes. The National Environmental Education and Communication Strategy (NEECS) aimed at complementing the implementation of national policies, strategies and international commitments on environment and particularly giving support to the implementation of the

[8] The Rio Declaration on Environment and Development Principle 10 upholds the freedom of access to information and declares that "states shall facilitate and encourage public awareness and participation by making information widely available" (UN, 1992)

MKUKUTA I communication strategy in sharing knowledge and experiences on poverty-environment linkages.[9]

For secondary and primary education levels issues of environment are already popularized into practical school programmes such as tree planting and other eye-opening instructions about the need to protect environment. Thus, in line with the 1995 National Education and Training Policy which, among other objectives, calls for the teaching of environmental education in schools WWF supported a programme aiming at helping teachers, students and community leaders to take part in decisions and actions on environmental management. The support covers teachers' colleges, selected primary schools and communities on subjects like soil erosion control measures, composting and management of waste, use of fuel efficient stoves, establishment of tree nurseries and vegetable gardens; publication of various resource materials such as readers for primary schools and communities, resource book for teacher educators, school greening manual and posters; guidelines for teaching in primary schools in themes like trees, water, soil and wildlife conservation, air pollution, energy and marine conservation. It has also supported environmental publications on subjects such as forest, water, soil and wildlife conservation.[10]

For *local government* officials and environmental officers training workshops have been carried out on various topics on environment, among others (TAMISEMI 2004, 2005)

(i) The essence of sustainable development and the place of environment for growth and the MDGs, integrating "sustainable development" principle in all possible areas of production and services and environment as ***cross-cutting,***

(ii) Links between poverty and environment including climate change, environmental assets and environment hazards identified;

(iii) Importance of environment appraisals into planning processes, particularly at the local level,

[9] http://www.nemctan.org/neecs.htm
[10] Other partners include the National Environment Management Council (NEMC), Malihai Clubs, Ministry of Natural Resources and Tourism, and Ministry of Education. See, Environmental Education in Tanzania http://www.panda.org

The levels of detail and language of instruction are programmed to match the capacity and needs of the target audience but the key idea is that mainstreaming is greatly made easier when the agents are fully apprised of the basic motive and what they are expected to do. Since a lot of activity has been carried out during the past five years

Recommendation 2: Research-to-Policy on Environment

It will be useful to assess the implementation challenge in relation to capacity at different levels - national, versus local, private (small versus large) and community versus public sector undertakings[11]

Research activities have involved the networks for exchanging knowledge and information amongst local environmental groups within government and external links with DPs. Specifically they include the development of research agenda at the national level (e.g. by NEMC, specific research agenda within universities and other educational institutions and with technical and financial support of DPs such as UNDP, UNEP, World Bank, DFID.

Support of research and dissemination of research output helps expand knowledge of environmental issues at the appropriate levels. In higher education with courses on sustainable development equip future technocrats, bureaucrats, planning officers, social workers etc. with tools to analyse environmental inputs into plans and budgets as well as interpret findings into actionable agenda or even articulate the problems on the ground into researchable hypotheses or questions. One example of multi-disciplinary research from the University of Dar es Salaam is the *Study of the Malagarasi Wetlands Ecosystem* (Nkotagu and Ndaro 2004), which involved scientists/engineers in the field of water resources and socio-economy. Universities carry out projects of this nature with strategic networking where they can share knowledge with government and other key interested parties in the project cycle. Knowledge sharing is possible when the project management includes options for linking up with government department in charge of environment and natural resources.

[11] By capacity here is meant the adequacy of skills and training competencies.

One of the responsibilities of NEMC is to stimulate public and private interest and participation in the natural resource management activities and develop and operate an information system for storing and dissemination of information. It is not certain, however, to which extent NEMC and DOE have full access to environmental information from other MDAs and local governments as well as private investment projects. unless/until it can be established that the MDAs disclose fully to NEMC necessary information as would be based on environmental impact assessments (which are mandatory but which may not be fully disclosed). Surveillance or research projects may face barriers to such information for "sensitive" projects or those which prioritise personal rather than society gain.

Analytic work has accumulated overtime in the wake of the PRSP approach, combining research-cum-practice output[12]. Environment appears in most of these works, ranging from *MKUKUTA monitoring systems* such as Research and Analysis Working Group (RAWG) and MKUKUTA Implementation Reports (MAIR) and sector reports and studies, Public Expenditure Reviews, the Poverty and Human Development Reports (PHDR).

During MKUKUTA II it is expected that research activity will continue, in addition it would be useful to assess the extent to which the proposed actions/ recommendations implemented, are consistent with other policies/guidelines or directives. Furthermore

Recommendation 3: Natural Resources and Good Governance

Market and policy failures, especially corruption, in natural resource based sectors are leading to unsustainable extraction, loss of much needed government revenue and lost opportunities for growth and poverty reduction and therefore a risk to seriously compromise the achievements of MKUKUTA I (Luttrell and Pantaleo, 2008).

Good governance is one of the three main clusters in MKUKUTA I which notes that "*in order for broad-based growth and improvement of quality life and social well being to take place, good governance has to prevail*". However, the strategy also clearly points out that corruption and bad governance is a major issue today. In general, MKUKUTA I and the

[12] The term suggested here to mean output that blends (technical) empirical research tested by the eye of the practitioner in policy-making and implementation (practice) (as opposed to purely academic derivations

policies and plans linked to the natural resource sector provide a sufficiently coherent framework for sustainable natural resources management in Tanzania.

There are several examples of lack of good governance in natural resources management. Some of these are serious "distortions" in key sectors such as mining, forestry, wildlife/tourism, fisheries, forestry, and lands/agriculture. Many reported cases of natural resources mismanagement, such as illegal logging[13] and charcoal[14] production, illegal hunting and destructive fisheries are evident (Jessica and Slunge, 2005). The strong resistance to reform the Wildlife sector is another example of the lack of good governance (*op cit.).*

The lack of good governance results is loss of economic benefits both to the community and the government in general. Moreover, poor communities often bear the cost of environmental degradation from larger investments or are simply pushed away due to weak ownership rights and poor implementation of existing regulations and laws. This is particularly crucial for the common property areas that the poorest community members typically depend on. Weak governance regimes will also cause resources to be offered below market price to the benefit of a few powerful tricksters, and at the loss of the majority of the rural population

It is estimated that only 4-15 percent of public revenue from logging operations in selected districts of southern Tanzania were collected. Both government and DPs have raised alert on other similarly predatory methods of extraction such as dynamite fishing, theft (overhauling of fish) (Assey et al. 2007; UNDP-UNEP 2008:29).

The experience and overwhelming evidence suggested huge *lapses in governance* in relation to the exploitation of natural resources, with each sector/sub-sector having problems of their

[13] One example is the so called "logscam" from July 2004, which made headlines in the national media, as has similar stories, where the Minister of Natural Resources & Tourism visited the harbor of Dar es Salaam to establish whether the new Forestry Act was implemented. During this visit, 187 containers were found containing logs that either had not been legally acquired or were not licensed/allowed for export. Since most of the logs originated from the Coastal Region, further inspections were ordered in all coastal districts. These revealed 6,898 m^3 of illegally harvested logs that were valued at 382.65 million TZS, or 55,715 TZS/ m^3.

[14] One estimate indicates that the charcoal industry in 2002 have utilized 21.2. Mill. m3 of wood, equivalent to 624,500 ha of woodland, providing 43.7 million bags of charcoal to 6.8 mill. mostly for urban consumers. The annual net value of this charcoal trade was 4.8 mill. USD! Recent price increases in Dar es Salaam to 10,000 TZS per bag of charcoal is an indicator of an unaccounted and dwindling resource (Jessica and Slunge, 2005)

own nature. For land, there were sometimes violent conflicts between farming and grazing, between human settlements and location of mining and/or industrial activities, over-logging, over-fishing, wild-bush fires, etc. Failures here variously reflected inability of enforcement or inadequacy of existing laws and institutions.

Recommendation 4: Trade and Environment Issues

For the purpose of MKUKUTA II, it may be pertinent to examine how opportunities in trade using natural resources (comparative advantage) supported by radical efforts to build knowledge-driven competitive advantage can be exploited, broadly speaking. Specifically, the sectors that are sources of exports or potential exports would need to identify the institutional framework (regulatory or otherwise, related to the EMA 2004, on protecting the resources and capacity needed to understand and adhere to standards for the good of consumers both in advanced and developing countries as well.

Trade and environment have broad dimensions that bear on the prosperity of a nation but also implications on the sustainability of the country's natural resources, the basis of comparative advantage upon which trade is predicated. There two strands of thought in this regard:

(i) the notion that unrestricted markets make the most efficient use of resources, and therefore, to protect production and maintain their profitable investments, entrepreneurs will use their wealth to protect productive resources (ideally speaking) and

(ii) That globalization which makes possible exchange of goods, services, intellectual property, cultures etc. is accompanied by fast production and exchange processes seems to facilitate faster exploitation of the natural resources with adverse consequences on the environment if safeguards are not in place.

There are groups opposed to the trade policies of the World Trade Organization (WTO); they claim that increased trade is widely associated with deterioration of the natural environment; especially the destruction of native forests in LDCs as well as diminish forest protection in advanced countries. Good examples in the latter case for Tanzania would include exports of

logs, hunting blocks, and bad practices such as illegal and unreported catches from the exclusive economic zones). Increased production resulting in deforestation and intensive use of chemical inputs can have negative effects on water and soil quality/quantity.

The dilemma is that tightening environmental regulations may lead to reduced export production (and possibly job losses) although this has to be weighed against long-term view of livelihoods prospects of the country.

Technical requirements imposed by importing advanced countries usually, legitimate or protectionist require innovations which LDCs may not have the capacity to enforce e.g. the Technical Barriers to Trade and Sanitary and Phytosantary requirements. These invariably include *standards* (common, repetitive use, rules, guidelines, features of products, processes… conformity), *technical regulations* (on product features, processes or production methods, conformity mandatory) and *procedures for conformity* (procedures and instructions of a technical standard or technical regulation - include sampling, testing, inspection, evaluation, accreditation, certification and others. Capacity and flexibility to accommodate such requirements in their production processes need to be developed in Tanzania exploiting all available external assistance that can be obtained.

In Tanzania, quite a few studies have been done regarding environment impact of mainly international trade. Bagachwa and Limbu (1995) and Mjema and Kulindwa (2000) covering issues like linkages between Structural Adjustment Policies (SAPs) and environment, environmental implications of agricultural development, irrigation, deforestation, wildlife conservation, urban pollution and sanitation, mining and industrialization policies. Although trade is not explicitly mentioned, the key point here is the assessment of the implications of the movement toward market-oriented reforms, which also included trade policy reforms.

Recommendation 5: Address Weaknesses in Prioritisation and Policy/Institutional Coordination

At the process level, mainstreaming as part of the planning and implementation faced the following constraints (and these problems are more-or-less still significant):

- At first, slow up-take due to limited public awareness and at the institutional level, limited interest in some MDAs which would not consider environment as relevant to their mandates or a priority at all.

- Little experience or ability to quantify actions and costing on these activities into plans and budgets (more severe at the local level)

When the MKUKUTA I finally was ready for implementation, as the Matrix clearly shows, the main challenge (apart from budgetary allocation) was that most targets and interventions were very general and difficult to assign responsibility for the failure or credit to specific institutions in most case. The problems also included inadequacy of budgetary allocation – often falling short of anticipated (Luttrell and Pantaleo, 2008, VPO 2009).

- No clear prioritization among targets-108 targets ate too many to implement-there is a need for prioritization
- Policy coherence between MKUKUTA and EMA- the MKUKUTA and the EMA processes were not formally linked.

Recommendation 6: Participation and Role of Non-State Actors and Private Enterprise

Ensure that communities, private enterprises and NGOs are brought on board and private sector supports, financially and materially, environmental and natural resources protection especially at the community level.

Central government, donors and environment-NGOs (local and foreign) have mainly focused on extension of financial and technical support in order to fill the gap left by government. Implementation gaps still exist in terms of funding levels and monitoring. This affects the effectiveness of enforcement of laws and regulations. For the past two financial years (2006/07 and 2007/08) the government has only set funds aside for the implementation of EMA at the ministerial levels. No funds have been allocated at the local and regional levels where most of the environmental impacts are happening.

There is a need to ensure that communities, private enterprises and NGOs are brought on board. This is already happening especially for private enterprises in towns mainly "encountering" NEMC on environmental impact assessments and compliance terms. There is also a need for capacity building in the process for local communities to operate and maintain relevant infrastructures and facilities. A better form and level would be at the local government level where private firms are located in the local areas are invited/or required to attend roundtable joint previews of the impacts on environmental in the area. The financial and in-kind contribution of local communities should also count. There must be a way of attracting private sector in participating in supporting, financially and materially, environmental and natural resources protection especially at the community level.

Recommendation 7: Address Environmental Issues at the Sub-National Level

There are environmental concerns at the LGAs level that are complicated or affected by the involvement of central government. These are likely to take time to resolve as they require "negotiated solutions". In large part these relate to the utilisation of natural resources and for which there are national statutes which may (usually and wrongly perhaps) override the local government by-laws. Thus the common concerns and questions for environmental management for both local and central government joint attention may be listed as follows:

(i) Handling of property rights over natural resources when the natural resources are located within a local government geographic area.
(ii) Arrangements for "benefit sharing mechanisms" on natural resources – the fact that local populations may be indifferent to the environment when they have no incentive to contain degradation and conserve the environment and natural resources.
(iii) How to deal with varying population and settlement patterns induced by natural resource availability e.g. new areas for mining, construction sites, rapid urbanisation, farming versus livestock keeping, and land policy;
(iv) How to deal with poor enforcement of environmental laws: including the capability of the officers in the rural areas to enforce and monitor compliance to law; adequacy of modern working tools (surveillance or patrol gear) or legal materials;

and level of understanding of relevant laws, by-laws and directives; the central government has to intervene with adequate support to local government;

(v) How deterrent to offenders of environmental violations the fines are. Penalties must match the actual economic costs of damages to natural resources and environment.

(vi) Whether the LGA structure provides adequate autonomy to LGAs to issuance of licenses for exploitation of forests on public lands, collection of revenue on products from forest reserves or utilization of funds collected hunting blocks etc.;

(vii) Good working relationships between the LGAs and technical staff (e.g. at the Regional Secretariat)

Recommendation 8: Address institutional, human and financial capacity gaps related to mainstreaming environment

There is a need for increased capacity of specialised environmental expertise from natural and social sciences e.g. ecological experts, scientists, engineers and socio-economic planners. Increased capabilities in these areas will improve the ability to develop and undertake Environmental Impact Assessments (EIAs), environmental audits/ accounting, surveillance and monitoring of different environmental indicators.

It is possible to identify capacity gaps for environmental management across all levels of government, and other stakeholders, including private firms and community level. Environmental education which is supposed to be given more often has to be supported by and updated with new findings from research and policy application experience. At higher levels specialised training is envisaged in policy formulation, management and implementation of environmental tools and laws at both national and international levels. There is a need for increased capacity of specialised environmental expertise from natural and social sciences e.g. ecological experts, scientists, engineers and socio-economic planners. Increased capabilities in these areas will improve the ability to develop and undertake Environmental Impact Assessments (EIAs), environmental audits/ accounting, surveillance and monitoring of different environmental indicators. Technical assistance from development partners has been useful in environmental management but as with other sectors and areas, the purpose has been to use the opportunity to strengthen local capacity.

The problem is that since all sectors are required to mainstream environment, as environment is multi-dimensional, sectors are required by the Institutional Framework (q.v.) to have environmental officer(s) who is linked up with the DOE and work closely with NEMC depending on the issue at hand. This relates with the requirement that sectors develop environmental interventions suitable for inclusions in sector plans and budgets (the essence of mainstreaming). As noted earlier, these have been more direct for natural resources based sector MDAs (e.g. for agriculture, mining, tourism, energy and water and sanitation). Experts from these sectors are able to identify and quantify inputs, desired physical features, measurements etc. for the desirable environmental standards and indicators. The human capacity gaps are more vivid at the district and regional levels where the majority of the environmental officers are former district/regional natural resources officers. The same problem was also found at the ministerial level, as an example at the ministry of Livestock and Fisheries Development, the environmental Unit is located at the Livestock Department. There is a risk that the officer will mainly be concerned with environmental issues related to livestock and not issues arising from fishing activities and so on. The problem is that without proper training on general environmental issues, these officers tend to bias their focus on natural resources based environmental problems and less on other aspects of environmental management, e.g. the brown issues. Pioneered by the DOE and NEMC, mainstreaming effort has been in form of educative programmes e.g. training workshops with officials in MDAs and LGAs especially where there have been few experts. Training has been supported by guidelines and policy documents drawn by experts at DOE and NEMC. However, more training is required particularly in raising the level of capacity of responsible officers mainly at central and local government level during the operationalization of MKUKUTA II.

At the local government level, the human capacity gaps are probably more severe than at central government level. Fears lay with level of expertise or training of ward and village/*mtaa* Environment Management Officers where these are available for all wards and villages. It is expected that problems of availability of suitably qualified Council Environment Management Officers (for district/ municipal/ city/town councils) and Regional Environmental Management Experts are less severe than at the ward and village levels. It is only important to verify their competence and ability to “be innovative” and flexible to

adopt, adapt and share new ideas. Many of the villages have the environmental management committees, but again the problem is most of the committees are more of natural resources management committees than the environment per se. They are more concerns with natural resources such as forests, wildlife and fisheries. This calls for NEMC/VPO to conduct more awareness training at village and mtaa levels. There is a need to show that environment goes beyond natural resources.

Overall, successful environmental mainstreaming is determined by the adequacy (in numbers) and quality (level of training) of personnel in all the sections, and level of education of the general population. Environmental experts and sector experts such as mining engineering and agronomists are still needed in various fields: industry, marine sciences, economics and planning etc. These would be instrumental in carrying out technical assessments of the social and environmental impacts of proposed investments. For example, whether investments on land are likely cause degradation of soils and water, the likelihood of pest, impacts on biodiversity and impact on long-term to longer-term sustainable soil and water management. Legal experts would handle issues of land tenure, water rights; cartographers handle mapping and demarcations etc. All aspects have to be communicated in non-technical terms to the populations inhabiting the land.

According to URT (2004e), areas for capacity strengthening should include (Box 4):

Box 4: Areas for capacity-building to strengthen environmental management

- *Environmental impact assessment skills:* based on precautionary, anticipatory and preventive approaches.
- *Environmental legal skills:* to ensure enforcement of environmental laws to facilitate effective environmental management all the way to ward or village level.
- *Valuation of environmental resources:* for experts who can ensure that environmental resources are not undervalued and that market-based approaches are used for environmental protection.
- *International negotiation skills to* sharpen capacity to negotiate at an international level
- *Publicity campaigns:* to enable environmental officers to raise environmental awareness among the rural and urban people.
- *Monitoring and inspection at the regional and district level:* to set up and strengthen the institutional capacity-especially the field offices for monitoring and enforcing environmental regulations.
- *Environmental audits:* To equip environmental officers at the regional and district levels with the capability to evaluate the performance of existing mines and other extraction sites and to identify areas for improvement.
- *Environmental Economics* to enhance capacity for integrating environment into District Authorities/Municipal Councils development plans.

Source: adapted from URT (2004d)

Recommendation 9: Improve Data and Information systems for evidence based policy making.

Institutional strengthening as well as a system for information sharing would complement to capacity development for the institutional framework for environmental management to function properly. Staffing levels should go hand in hand with requisite level of working tools, particularly those for storing and sharing data and information. Information management systems experts and data collection capacity are important for the well-functioning institutional framework. Expertise will differ with levels of government but appropriately apportioned programmes would be designed to ensure a level of simplicity without compromising comprehensiveness for local government, especially village/*mtaa* level to be able to record and store basic data for basic poverty-environment indicators. This attempt, at the lower levels (village/*mtaa* level) would benefit from the already existing TSED system which already has modules/questions relevant for environment and MDGs at the lower level.

5. Summary and Recommendations

5.1 Summary observations

The primary reason for integrating environment into the national development framework or policies remains even up to now both at the macro-level where the ultimate objective has been to include environmental protection and promotion interventions in the plans and budgets both at central and local government level. The emergence of the environment agendum has been traced historically to the early global concerns in advanced countries and within international development organisations and development partners (e.g. the UN Conference on Human Environment 1972 and subsequently, the Millennium Declaration 2000 and the World Summit on Sustainable Development 2002), leading to several multilateral agreements or conventions on the conservation of natural environment. Tanzania picked up the agenda also in tandem with global move by developing an environment action plan (in 1994) and the national environment policy in 1997, specifically on erosion of arable land, deforestation, clean water, pollution, loss of habitat and biological diversity and deterioration of water quality. With time, issues of urban environmental and health effects of urban settlements and increasing farming and livestock activity on river catchments, intensity of extractive activities on land and water, industrial activity and construction, all raised concern about the increasingly vivid environmental and health effects on humanity's present and future livelihoods.

Like in other developing countries, the approach to mainstreaming environment has relied on having lead champion at the upper echelons of government to galvanise actors who developed interest, concern and commitment to articulating the environmental degradation trends and the need to halt such degradation. This approach was supported by efforts to prove the links between environment and sustainable livelihoods especially amongst the poor (countries), and subsequent development of poverty-environment indicators to sharpen awareness of the public. This led to the institutionalisation of the effort through formation of environmental management institutions at the national level and sharpening of policy instruments. In Tanzania the Vice President's Office took the lead, supported by the NEMC.

The process galvanised support of as many stakeholders as possible (even though mainly at the central level), to rely on increased awareness, greater use of analytical work on, the links between poverty and environment including the contribution of environment to growth, livelihoods, government revenue, and importance to achievement of many of the MDGs (taking on board academic/research institutions), use of a cross-sectoral forum to work on environment that is led by government, public expenditure on environment, promoting integration of environment issues and appraisal into planning processes, particularly at the local level (village and district). It also exhorted integration of multi-lateral commitments and opportunities on environment (e.g. Climate Change Convention) into national policies and strategies and strengthened environmental management capacity as well as inclusion of poverty-environment indicators in local and national monitoring systems –including the PRS.

It has been noted that these methods were effective but far from accomplished. During the implementation of MKUKUTA I (2005 to present 2010, end of MKUKUTA I), further issues emerged. This study has noted just a few, which are the basis for a discussion of strengths and limitations – where these in turn, provide areas which need to be strengthened further to protect the gains made in the preparation of MKUKUTA II.

5.2 Recommendations

5.2.1 Strengthening the gains

The strategic actions and entry points need to be maintained:

- strengthening environmental management lead institutions, the framework and reporting relationships and requirements and policy instruments that have been put in place

- continued awareness-raising through campaigns to local levels, enlisting support of active role of local and international organisations with keen interest in environment at all levels; and through education system and research (National Environmental Education and Communication Strategy (NEECS) and environment research agenda in Higher Learning and other local and international research Instructions)

- networks of environment working group bringing together government and non-state actors including on issues of public expenditure review;

- Increasing number of policy documents picking environmental aspects related to respective sector mandates (e.g. the National Trade Policy 2003, SME Development Policy 2002, National Water Policy 2002, National Transport Policy, Local Government Authority including environment within delivery of O&OD to village level.

5.2.2 Addressing the Major Limitations

- Slow up-take at institutional level – more could be done at the MDA and LGA level to sharpen the environment actions, into plans and budgets, even though to some environment would no appear to be a "priority"

- Related to sharpening actions into budgets is the question of more visible, tangible allocation of budgetary resources (financing). This does not come out clearly in the budget reports or evaluations. Public expenditure review on environment similar to the one carried out in 2004 would need to be updated.

- The role played by the private sector and communities in environmental mainstreaming has not been quantified but the involvement of both is associated with activities carried out by (a) the private sector in form of investment projects whereby a requirement of environmental appraisal / impact assessment is critical, with interested parties being the rural community or urban neighbourhood or their environmental committee and the NEMC, for its surveillance and assessment of the impact assessments. Ways of making private sector and communities to contribute financially or in-kind to environment and natural protection activities should also be encouraged.

- Addressing lapses in governance in relation to environment and protection of natural resources for posterity: These have occurred due to corrupt practices or weak capacity, incessant clashes over land use and in border regions claims of trespasses or "veiled" invasions of natural forest reserves, charcoal production, ruthless and

destructive methods of (illegal) logging/export, fishing, hunting, and mining. Corrective actions are required by interventions from the legal side and an appeal for vigilance and "natural resources nationalism".

- Areas of common concern between local and central government, suggesting a need for "negotiated solutions" on environment and natural resources management

- Capacity development and institutional strengthening - achievement in this area is anticipated to take a medium to long-term planned approach, synchronised with manpower development plan at national level.

- Data and Information (capacity in quantifying environmental assets, dimensions of environmental hazards), depending on staffing and capacity of/levels of training, working tools for data collection and storage, as well as sharing (information system); to be considered for all levels all the way down to village/*mataa* levels.

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Table A1: Major National Policies / Strategies and International Agreements on Environment

Sector Strategies and Programmes	Sector Policies
• *National Strategy for Growth and Reduction of Poverty (2005)* • *Poverty Reduction Strategy Paper (2000)* • *The National Poverty Eradication Strategy (NPES, 1998);* • *Rural Development Strategy (2001);* • *Tanzania Development Vision (Vision 2025);* • *Tanzania Assistance Strategy (TAS, 2001);* • *Agriculture Sector Development Programme (2003);* • *Health Sector Reform (1999);* • *Agriculture Sector Development Strategy (ASDS, 2001);* • *Education Sector Reform & Development Programme (1999);* • *Road Sector Development Programme (1997);* • *Local Government Reform Programme.*	• *National Land Policy (1995);* • *The Wildlife Policy of Tanzania (1998);* • *The Mineral Policy of Tanzania (1997);* • *National Forest Policy (1998);* • *National Fisheries Sector Policy and Strategy Statement (1997);* • *Agriculture and Livestock Policy (1997);* • *National Tourism Policy (1999);* • *Sustainable Industrial Development Policy (1996);* • *Energy Policy of Tanzania (2002);* • *National Water Policy (2002);* • *Construction Industry Policy (2002);* • *National Transport Policy (2003);* • *Road Sector Investment Programme (2000)* • *Country Programme for Phasing Out Ozone Depleting Substances* • *National Health Policy (1990); and* • *National Human Settlements Development Policy (2000).* • *National Forest Policy (1998)* • *Wildlife Policy of Tanzania (1998)* • *National Beekeeping Policy (1998)*
Cross-cutting sector policies	**Environment-specific policies/ strategies plans**
• *National Policy on HIV/AIDS (2001);* • *Women and Gender Development Policy (2000);* • *National Gender Policy (1992);* • *National Micro Finance Policy (2000);* • *Small & Medium Enterprises (SME) Development Policy (2001);* • *Tanzania Women in Development Policy (1998);* • *Cooperative Development Policy (1998);* • *Community Development Policy (1996).* • *National Population Policy (1992)*	• *A Strategy of Urgent Actions on Land Degradation and Water Catchments (2006)* • *National Environmental Education and Communication Strategy (NEEC) (2005-2009)* • *National Biosafety Framework for Tanzania-2004* • *National Environmental Policy (NEP) (1997)* • *National Environment Action Plan (NEAP, 1994);* • *National Biodiversity Strategy and Action Plan* • *The National Action Programme to Combat Desertification (NAP)* • *National Implementation Plan (NIP) For the Stockholm Convention on Persistent Organic Pollutants (POPs)* • *The Development of Indicators of Poverty-Environment Linkages*
Multilateral Agreements / commitments on Environment	
• *Bamako Convention on the ban of the import to Africa and the control of transboundary movements of hazardous wastes within Africa (Bamako Convention)* • *Basel Convention on the Control of Trans-boundary Movements of Hazardous Wastes and their Disposal* • *Convention for the Protection, Management and Development of Marine and Coastal Environment of the Eastern African Region and Related Protocols* • *Nairobi Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern Africa Region, Lake Tanganyika Treaty* • *Convention on Biological Diversity (CBD)* • *Kyoto Protocol* • *Protocol on Liability and Compensation on Damages resulting from Trans-boundary Movements of Hazardous Waste and their Disposal* • *Rotterdam Convention on Prior Informed Consent Procedure on International Trade of Certain Hazardous Chemicals and Pesticides* • *SADC Regional Environmental Education Programme (SADC-REEP)* • *Stockholm Convention on Persistent Organic Pollutants (POPs)* • *UN Decade for Education for Sustainable Development (2005-2009)* • *UNESCO's International, Environmental Education Conference (Tbilisi 1997)* • *United Nations Conference on Environment and Development (UNCED) – Rio Earth Summit (1992)* • *United Nations Convention to Combat Desertification* • *United Nations Framework Convention on Climate Change (UNFCCC)* • *Vienna Convention on Protection of Ozone Layer and Montreal Protocol on Substances that Deplete the Ozone Layer,* • *World Summit on Sustainable Development (Johannesburg 2002)SADC Regional Environmental Education Programme (SADC-REEP)*	

Source: URT 2006a

TableA2a: Environmental Issues, Impacts and Control Measures

Environment And Natural Resource Issues	Negative Environmental Impact	Proposed Courses Of Actions
	• Fragmentation of wildlife habitats leading animals into migration into human settlement, damage to crops and loss of human life	▪ Wildlife Management Areas (WMAs) ▪ Joint forest management
Desertification: Removal of vegetation cover due to overgrazing, bad farming practices e.g. slash and burn,, farming on steep slopes without across-terraces etc.	• Migration people and animals • Drying of rivers • Loss of biodiversity • Gullies erosion resulting from torrential rainfall	▪ Tree planting and protection of forests ▪ introduce communal forest management ▪ use energy serving stoves ▪ De-stoking/ modern livestock keeping practices ▪ use modern farming practices ▪ control bush/forest fires
Air Quality Poor air quality (indoor and ambient) due to land-based activities such as slash-and-burn, forest fires, industrial, traffic and domestic gaseous emissions (use of fuel wood); dust due to wind in dry lands	• Smog (heavily polluted air) leading to health hazards (e.g. respiratory diseases, lung cancer, stillbirths); • Problems from fuel wood smoke • Visibility problems to air traffic (smog esp. in urban areas) • Loss of ability to work and generate income	▪ Promote the use of cleaner technologies, especially in urban areas ▪ Improve farming practices ▪ Introduce/use by-laws to control setting of forest fires/bush fires ▪ Establish/encourage joint/communal forest management ▪ Afforestation and protection of forest reserves ▪ Clear production; emission permits ▪ Traffic licensing and management (e.g. public transport system, fuel and vehicle standards, road pricing charges; differentiated vehicle taxes ▪ Enforce guideline on use of / or ban harmful chemicals
Urban (air, land, water) **pollution** • Manufacturing activity versus population settlements • Farming and animal husbandry in urban and peri-urban areas • Untoward disposal of solid waste • Use and disposal of plastic packaging material, scrap metal • Petty/informal commercial activities • Consumption of alternative energy sources • Sources of water	• Improper industrial location, • disposal of effluent and gaseous emission leading to pollution in settlement areas • Complicating solid waste management • Health problems – hazardous pollutants from cast away plastics such as toxic gases (“dioxins”) leading to reproductive abnormalities, cancer etc	▪ Improve land-use planning ▪ Upgrading of unplanned settlements ▪ Improve liquid and solid-waste management; Storm water drainage and erosion protection; Urban Greening and Management of Open Spaces; Urban transport infrastructure; Urban water supply system and management; Tanzania’s “Sustainable Cities Programme ▪ Traffic management and licensing (e.g. public transport system, fuel and vehicle standards, road pricing charges; differentiated vehicle taxes ▪ International agreements e.g. voluntary agreements for toxic emissions: global ozone policy and new technology ▪ Management of industrial pollution and Cleaner Production Technologies ▪ Support strategies to recycle plastics, scrap metal and other wastes; managing extraction of building materials; petty/informal trading, enforcement of laws/ by-laws

Chemical pollution improper use of chemicals leading to pollution of the environment, leakage and spillage of oils in garages from industrial and energy equipment; use of hazardous chemical and poor management of hazardous wastes poses risks to health and the environment	• Loss of biodiversity • Contamination of water resources • Loss of soil fertility • Increase in diseases associated with pollution or intoxication	▪ Promote and encourage use safe of chemicals and protective gears ▪ Strengthen policies and legal provisions on chemicals and hazardous waste; educational on hazards of chemicals and safe handing procedures ▪ Implement regional and international agreements -Stockholm Rotterdam, Basel and Bamako conventions; the Strategic approach for International Chemicals Management, Globally Harboured system for labelling and Chemical Hazard Communication ▪ Strengthen requirements on chemical labelling; prohibit use of toxic and hazardous chemicals; Regular training of inspectorate services of key sectors such as Agriculture, labour Environment and Health; provide working tools; manage chemicals and hazardous waste; screen imported technologies and products that contain heavy metals ▪ Control air pollution from transport including efficient public transport system, fuel and vehicle standards, road pricing charges, differentiated vehicle taxes, introduce and effective by laws to control/ prevent pollution. ▪ Introduce emission and discharge permit based on levels of pollutants and pollution loading
Climatic Change and Adaptation Stresses from extreme weather - drought, floods, storms; patterns of productive activities; Global warming resulting from greenhouse gases emissions primarily from combustion of fossil fuel	• Increase of temperature • Increase in frequency and scale of extreme weather – drought, floods, storms/ cyclones, desertification • Sea level rising, coastal erosion, decrease in volumes of rivers affecting hydropower; • Ozone layer thinning • Worsening existing vulnerabilities – low harvests, food insecurity; • Loss of biodiversity; human health risks; coastal zone degradation	▪ Integrate responses to climate change and adaptation measures – ; ▪ Early warning, integrate impacts into macroeconomic projections for disaster relief, recovery efforts ▪ Reduce dependency on rain-fed agriculture; do rain-water harvesting ▪ Reducing emissions; removal of carbon from atmosphere through enhanced fixation in forests or in the sea ▪ CO_2 separation, sequestration, and storage Search for renewable energy and energy-saving technologies (energy)
Biosafety **E**xtent/ causes of loss of animal habitat / loss of plants and rare plant species poaching, population pressure, expansion of agricultural activities at expense of forests, development of human settlement.) Risk to environment and to human and animal health as a result of Genetically Modified Organisms (GMOs).	• Risks to human and animal health, biodiversity and environment, raising socio-economic and ethical concerns • Loss of balance of ecosystems	▪ National Biosafety Framework (NBF) as a set of policy, legal and administrative and technical instruments ▪ Establish risks to environment, human and animal health resulting from use of GMOs. Opportunities emerging from GMOs in improving human and animal health, agriculture, industrial production and environmental protection ▪ Public awareness on the NBF ▪ Nature protected areas ▪ Provision of information to public (e.g. mandatory labelling and accurate disclosure of content,, labelling, and certification by bureau of standards ▪ Eco-labelling explore and use opportunities available as a result of our country being a part to certain multilateral environmental agreements

Table A2b: Environmental Issues and Control Measures

No.	Problem stated	Major actions planned
1	Environmental degradation arising from the encroachment of water sources and catchment areas by livestock keepers/herdsmen	Identification and mapping of all of water sources countrywide; water catchment areas encroached by large numbers of livestock; areas suitable for livestock development; information on type of livestock, quantities/numbers and carrying capacities of the land; relocate and resettle livestock keepers, use of traditional methods and indigenous knowledge for environmental protection
2	Environmental degradation arising from illegal human activities related to agriculture and human settlement along steep slopes of mountains and mountain ranges, near river banks and around water sources	identification of encroached and severely degraded areas, removal of illegal occupiers of areas concerned, boundary of mountain ranges above which no human activities will be allowed, rainwater harvesting technologies and programmes
3	Environmental degradation due to deforestation and massivetree cutting for:- Fuel wood and charcoal and construction in urban areas	Institutions such as prisons, schools, and training institutions that use massive amounts of wood, to have wood plantations, nurseries for appropriate tree species, forest farms for firewood and charcoal, and research, development, and application of alternative energy sources and technologies, use of kerosene, gas and coal as alternatives to wood fuel.
4	Unsustainable small and large scale irrigation projects and programmes, with negative consequences on biodiversity and general water availability	regulations and procedures related to water rights, maintenance of irrigation infrastructure and regular inspecting of irrigation canals
5	Inadequate accurate data and information at district level regarding water sources and land use (	Identification of all water sources and their environmental status, development, dissemination and implementation of land use master plan, issuance of title deeds to water source areas
6	Environmental degradation due to wild fires.	To award individuals or organizations that provide information on forest or rangeland fires; empower local leadership in the prevention and control of forest fires in their areas of jurisdiction; creating a data/information on incidences of wild fires.
7	Land and water degradation resulting from alien and exotic tree species.	Identification of unsuitable tree species; community participatory programme promotion of tree species suitable for the conservation of land and water sources countrywide.
8	Desertification and drought in many parts of the country.	Further guidelines for continued implementation of National Tree Planting and Maintenance Campaign, o Establishment of tree nurseries, with each district required to plant and maintain 1.5 million trees per year, o Preparation and gazetting of a list of types of protected indigenous flora (trees and other plant species).
9	Public awareness and involvement in environmental protection and sustainable utilization of natural resources.	Preparation and implementation of a countrywide Environmental; education and public awareness programme; monitoring and evaluation of the programme.
10	Land use conflicts among various stakeholders.	o Preparation of environmental conservation and participatory land use plans for every district; determination of livestock carrying capacities in villages and districts; Surveying and mapping 6000 villages, and mainstreaming the Environmental Management Act 2004 into sector environmental laws and oversees their implementation.

Table A3: List of people met

S.N.	Name of Officer	Position and Institution
1.	Catherine Joseph	DPP, Ministry of Livestock and fisheries
2.	Mr Damas Shirima	DPP, Ministry of Water and Irrigation
3.	Mr Emmanuel Achayo	DPP, Ministry of Agriculture and food Security
4.	Mr Invocavit Swai	DPP, Ministry of Minerals and Energy
5.	Mr Rose Wambura	Budget section–Ministry of Minerals and Energy
6.	Mr Joseph Kakunda	Ministry of Water and Irrigation
7.	Mr Kubena	Ministry of Water and irrigation
8.	Mr David Biswalo	Ministry of Agriculture and Food Security
8.	Dr Ningu	Ministry of Agriculture and Food Security
9.	Mr Benard Lubogo	Ministry of Natural Resources and Tourism
10.	Mr Elias Daniel Kitundu	Ministry of industries, Trade and Marketing
11.	Mr Ezamo S. Maponde	Ministry of industries, Trade and Marketing
12.	Mr A.J Chilumanga	Ministry of industries, Trade and Marketing
13.	Ms Bertha Nyange	Ministry of Natural Resources and Tourism
14.	Mr Peter Lyatuu	Ministry of Natural Resources and Tourism
15.	Ms Dafroza Sanga	Ministry of Natural Resources and Tourism
16.	Mr Bure Nasibu	Ministry of Natural Resources and Tourism
17.	Mr Faraja Garageza	VPO, Division of Environment
18	Ms. Blandina Cheche	VPO-Division of Environment
19	Mr. Cletus Shengena	VPO-Division of Environment
20	Ms Anna Maembe	DP-National Environmental Management Council (NEMC)
21.	Ivar Jorgensen	Royal Norwegian Embassy, Dar es Salaam