



**THE UNITED REPUBLIC OF TANZANIA
VICE PRESIDENT'S OFFICE**

**GUIDELINES FOR MAINSTREAMING
NATIONAL ACTION PROGRAMME TO
COMBAT DESERTIFICATION INTO SECTORAL
POLICIES, PLANS AND PROGRAMMES**

**DIVISION OF ENVIRONMENT
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FOREWORD

Land is a natural resource base for which all communities in the country depend on for their livelihood. However, human activities, among other factors, have largely contributed to its degradation which is associated with decreasing land quality and value. In Tanzania, land degradation is mostly contributed by unsustainable land use practices, which threatens the social and economic development. The consequences of land degradation are numerous and serious including reduced land productivity, food insecurity, decrease of income and livelihoods, destruction of habitats and ecosystems, loss of biodiversity, and human migration. These challenges among others, call for the need of preparing a practical and technical guide that will enhance mainstreaming of sustainable land management approaches into sectoral policies, plans and programmes.

Land degradation can be minimized and land quality restored to a large extent. Protecting and restoring the function and services that have been lost is a priority towards sustainable land management. In this context, the Government has taken various initiatives across the country to combat desertification, land degradation and drought. These initiatives include, among others, formulation and implementation of relevant policies, strategies and programmes; promoting adoption of sustainable land management practices such as integrated land use plans, integrated soil fertility management, conservation agriculture; rainwater harvesting, agro-forestry, and improvement of livestock management systems; supporting alternative income generating activities.

Despite such efforts, the problem of land degradation and its associated impact has continued to persist. Such situation calls for more concerted effort to reduce the magnitude of the problem. This entails the need for integrated approach to facilitate adoption of sustainable land management practices to address challenges posed by land degradation in the country. Cognizant of this fact, these Guidelines have been developed to facilitate and ensure that relevant policies, plans, programmes integrate sustainable land management practices with a wider-reaching set of outcomes towards achieving sustainable development.

The Guidelines cover brief country situational analysis and initiatives undertaken to address land degradation; description on step by step framework to be followed when mainstreaming Desertification Land Degradation and Drought concerns in sectoral policies, plans and programmes; institutional arrangement and roles of key stakeholders; and monitoring framework.

The task of mainstreaming sustainable land management should be at the forefront of development planning and policy formulation across all sectors. It is my sincere hope that these Guidelines will be useful in supporting and enhancing the mainstreaming of

DLDD issues in respective sectoral policies, plans and programmes. I therefore urge all sectors and other stakeholders to make use of these Guidelines for achieving sustainable development.



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Sazi B. Salula

**PERMANENT SECRETARY
VICE PRESIDENT'S OFFICE**

LIST OF ABRIVIATIONS AND ACRONYMS

AWC	Available Water holding Capacity
CBOs	Community Based Organizations
CSOs	Civil Society Organizations
CEMO	City Environment Management Officer
DEMO	District Environment Management Officer
DLDD	Desertification, Land Degradation and Drought
DPs	Development Partners
EA	Environmental Audit
EIA	Environmental Impact Assessment
EMA	Environmental Management Act
FAO	Food and Agriculture Organization
FBOs	Faith Based Organizations
GBS	General Budget Support
GM	Global Mechanism
GEF	Global Environment Facility
LGAs	Local Government Authorities
MDAs	Ministries Department and Agencies
MEAs	Multilateral Environmental Agreements
MEMO	Municipal Environment Management Officer
M&E	Monitoring and Evaluation
MKUKUTA	Mkakati wa Kukuza Uchumi na Kupunguza Umaskini Tanzania
MTEF	Medium Term Expenditure Framework
NAP	National Action Programme to Combat Desertification
NEAP	National Environmental Action Plan
NEP	National Environmental Policy
NEMC	National Environment Management Council

PACD	Plan of Action to Combat Desertification
PPP	Public Private Partnership
PMO-RALG	Prime Minister's Office – Regional Administration and Local Government
SLM	Sustainable Land Management
SOC	Soil Organic Carbon
SWOC	Strengths, Weaknesses, Opportunities and Challenges
TEMO	Town Environment Management Officer
TSD	Topsoil depth
UNEP	United Nations Environment Programme
UNCOD	United Nation Conference on Desertification
UNDP	United Nations Development Programme
UNCCD	United Nations Convention to Combat Desertification
UNCED	United Nation Conference on Environment and Development
VPO	Vice President's Office

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CHAPTER ONE

INTRODUCTION

1.1 Background Information

Land is a scarce natural resource in which majority of people rely on for their sustainable livelihood. However, climatic and anthropogenic factors have largely contributed to land degradation which has been associated with decreasing land quality and value. According to the United Nations Convention to Combat Desertification (UNCCD) (1994) statistics, land degradation affects 1.5 billion people globally. On the other side, 2.6 billion people depend directly on agriculture, but 52% of the land used for agriculture is moderately or severely affected by soil degradation while arable land loss estimated at 30 to 35 times the historical rate. Due to drought and desertification each year 12 million hectares are lost worldwide.

In Tanzania, land degradation, which in most cases is due to unsustainable land management practices, threaten the social and economic development as well as livelihoods. Regions with high population densities per square kilometers have a remarkable high rate of land degradation. Rapid population growth is associated with declining amount of land for pasture, which triggers seasonal migration of pastoralists and their livestock. Pastoral and agro pastoral migrants like Maasai and Sukuma people from Arusha, Manyara, Shinyanga, Simiyu and Geita who are migrating to Mbeya, Mtwara, Morogoro, Tanga and Rukwa regions in search of pasture and agricultural land has been one of the causes of land degradation in the country.

Various initiatives such as global/international and national efforts to combat desertification are being undertaken to address issues of DLDD. International efforts started way back in the 1970s when the United Nations Environment Programme (UNEP) held an international conference on desertification (UNCOD) in Nairobi Parties adopted a Plan of Action to Combat Desertification (PACD). Also, the UN Commission observed that desertification had become one of the most serious environmental and socio-economic problems of the world. The UNCCD was adopted in Paris on 17 June, 1994 and entered into force on 26 December, 1996. Tanzania ratified the Convention in 1997.

Since ratification, several national efforts to address the impacts of DLDD, have been undertaken. The efforts include development of Strategy for Urgent Actions on Land Degradation and Water Catchment (2006) and the National Strategy on Conservation of Coastal and Marine Environment, Lakes, Dams and Rivers (2010). The Government

has also developed a National Action Programme to combat DLDD (2014) that has been aligned to the Ten year Strategy of the UNCCD (2008 – 2018); Status of Land Degradation (2014); and Compendium of Best Practices for Sustainable Land Management (2014).

The Environmental Management Act (Cap 191) under section 13(2) gives power to the Minister responsible for environment, in consultation with other sector ministries, to issue general guidelines to the Sector Ministries, LGAs and private institution for the purpose of addressing environmental issues including DLDD. These Guidelines have been prepared to enable relevant sectors and institutions to identify appropriate intervention measures that will address DLDD and its impacts so that they are incorporated in relevant policies, plans, strategies and programmes.

1.2 Objective of The Guidelines

The main objective of these Guidelines is to ensure that relevant policies, plans, programmes integrate sustainable land management (SLM) with a wider-reaching set of outcomes towards achieving sustainable development.

1.3 Justification of the Guidelines

In Tanzania, the issues of combating DLDD have been done for so long by sectors although challenges still exists. Mainstreaming of sustainable land management (SLM) has been identified to be essential to ensuring the development of policies, plans and programmes with a wider reaching set of outcomes than if these were to be undertaken on their own. SLM is a cross cutting issue and therefore holistic and integrated approach is necessary in addressing challenges posed by land degradation in the country. Mainstreaming SLM issues into national policies, plans and programmes ensures consistency between the needs of achieving SLM, poverty eradication and economic development.

It is against this background that these Guidelines have been developed. The Guidelines will also contribute to the implementation of the National Environmental Policy (NEP 1997), Environmental Management Act, (EMA Cap 191), National Environmental Action Plan (NEAP, 2013 -2018), MKUKUTA II (2010), and the Multilateral Environmental Agreements (MEAs) and other sectoral Policies Plans and programmes.

1.4 Scope of the Guidelines

The Guidelines will facilitate mainstreaming of NAP into sectoral policies, plans and programmes. These sectors include Forestry, Tourism, wildlife, Marine and Coastal,

Energy, Mining, Fisheries, Livestock, Water, Agriculture, Land use and Health. These guidelines are intended to be used by sectors as well as civil society organizations and private sector.

1.5 Methodology of Preparing the Guidelines

These Guidelines were prepared in a participatory approach by involving different stakeholders. The document was drafted by a team of experts from the Vice President's Office (VPO). The draft Guidelines were then subjected to a stakeholders' consultative workshop for discussion and review with representation from government ministries, departments and agencies; public and private sectors; civil society organizations; development partners; and media. The views of stakeholders were incorporated to finalize the Guidelines.

The draft Guidelines were then tabled and adopted by the Steering Committee.

CHAPTER TWO

INSTITUTIONAL FRAMEWORK

2.1 Introduction

In Tanzania, implementation of the United Nations Convention to Combat Desertification (UNCCD) is guided by the National Environmental Policy (1997); Environmental Management Act, Cap 191; and sectoral policies and legislation. This Chapter describes issues of policy, legal and institutional framework for the implementation and management of environment in the context of combating DLDD.

2.2 Policy Framework

The overall policy framework for environmental management in Tanzania is provided by the National Environmental Policy (1997). The Policy recognizes environment as a cross-cutting issue that requires a holistic approach and multi-level engagement. In this perspective, the Policy addresses land degradation by involving sectors, LGAs and other stakeholders.

In addition, sectoral policies does contribute in addressing DLDD within respective sectors and offer an opportunity for enhancing national efforts in combating DLDD.

2.3 Legal Framework

The Environmental Management Act, Cap 191 provides for legal and institutional framework for environmental management in the country. The Act requires sector ministries and LGAs to establish Environmental management units which, among others, will address issues of DLDD. Furthermore, Section 179 -181 of the Act gives mandate to the Minister responsible for environment to coordinate implementation of Multilateral Environmental Agreements (MEAs) in the country to which Tanzania is a Party including the UNCCD.

2.4 Institutional Framework

Environmental management needs effective, efficient coordination and cooperation among organs of the government and other key stakeholders. Environmental Management Act Cap. 191 has stipulated the following institutional arrangement responsible for environmental management in Tanzania including issues of combating DLDD (Figure 1).

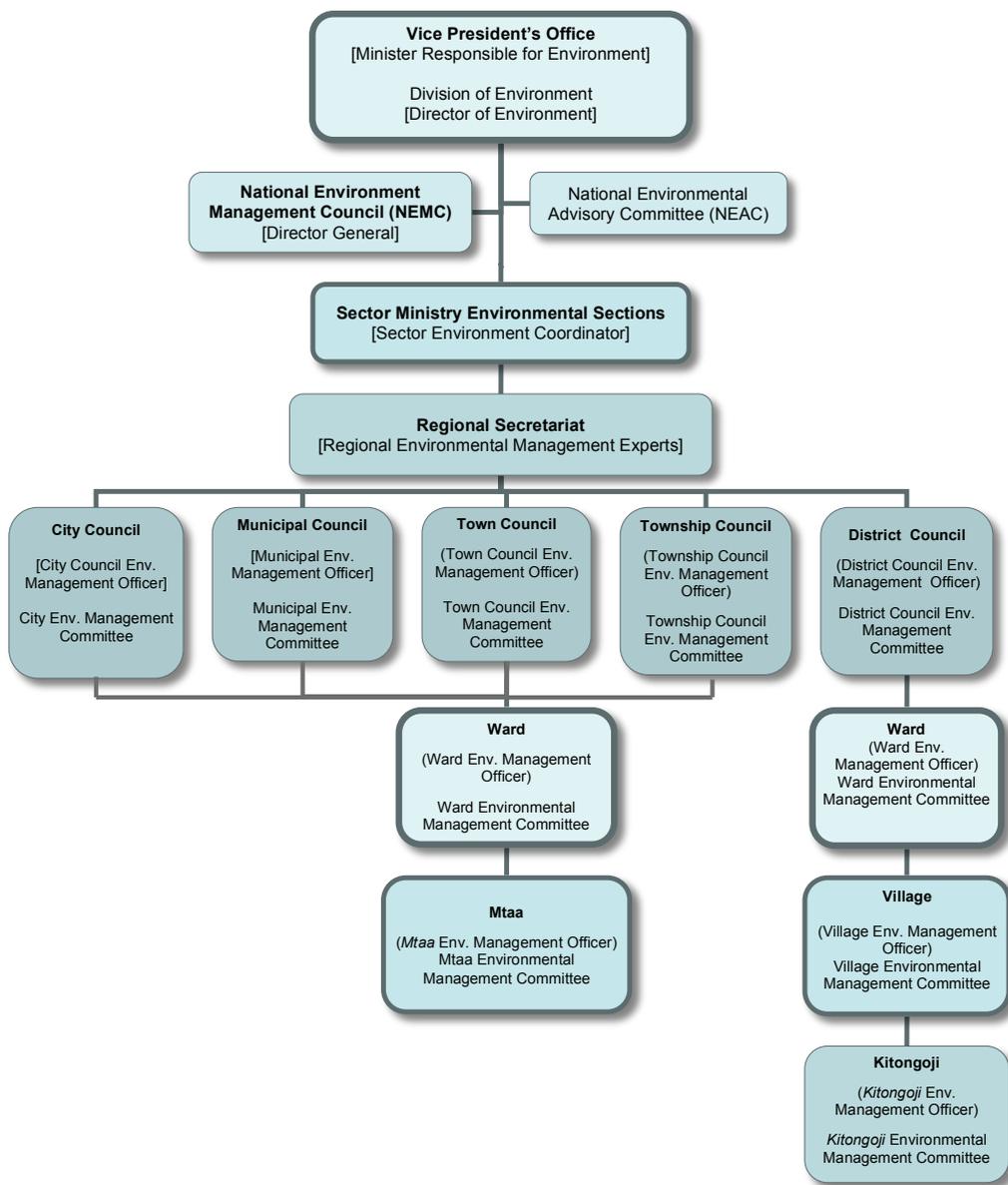


Figure 1: Institutional arrangement for environmental management in Tanzania

a) National Environmental Advisory Committee

The Committee has been established to advise the Minister responsible for environment or any sector ministry on environmental matters. Section 11 and 12 of EMA, 2004 respectively stipulate the composition and functions of the committee. It offers an opportunity to elevate and address the issue of DLDD as a national agenda.

b) Minister Responsible for Environment

The Minister is responsible for articulation of policy guidelines necessary for protection, promotion and sustainable management of environment in Tanzania including issues of DLDD. The Minister may issue general guidelines to sector Ministries, Government Departments, City, Municipal or District Environmental Management Committee, Agency or any other public or Private Institution necessary for the purpose of addressing environmental issues including DLDD.

The Vice President's Office (VPO) is the national focal point for the United Nations Convention to Combat Desertification (UNCCD). Implementation of activities under this convention enhances sustainable land management in Tanzania. At the national level, SLM Steering Committee has been established chaired by the Permanent Secretary of the VPO that provide policy guidelines to the UNCCD Focal Point and the UNCCD Technical Committee to ensure coordinated actions and participation of various sectors in the planning and implementation of UNCCD activities in the country.

c) National Environment Management Council (NEMC)

The function of NEMC, among others, is to oversee the enforcement of EMA, 2004 which includes enforcement and compliance; review and monitoring of Environmental Impact Assessment (EIA) and Environmental Audits; undertake programs to enhance environmental education and public awareness; and render advise and technical support to entities engaged in natural resources and environmental management.

d) Sector Ministries

The duties of sector Ministries to manage the environment are highlighted under section 30 (b) of EMA Cap 191 which provides for the ensuring all environmental matters contained in other written laws falling under the sector ministry are implemented.

The functions of each sector Ministry among others is to ensure that NAP is mainstreamed into sector functions. Each sector ministry carries out its functions and duties in accordance with EMA, 2004 and any other related laws, provided that such laws do not conflict with EMA as per section 232 of that Act.

e) Regional Secretariat

The major responsibilities of Regional Secretariat is to coordinate all advice on environmental management in their respective regions (Section 34 of EMA, 2004). Section 35 of the Act provides for appointment or designation of a Regional Environment Management Expert (REME). REME is charged with responsibilities to advise the local government authorities of that particular region on matters relating to implementation and enforcement of EMA. REME links the Region and the Director of Environment.

f) Local Government Authorities

The Environmental Management Act, Cap. 191 empowers LGAs to oversee environmental management in their areas of jurisdiction as stipulated under sections 36 to 41 of the Act. The Act further empowers LGAs to designate/appoint Environment Management Officers to oversee implementation of EMA at their respective levels (City, Municipality, District and Town). The duties of the LGAs to manage the environment are also provided by Local Government Authorities Act No 7 and 8 of 1982. The LGAs, among other duties, are responsible for addressing DLDD issues in their area of jurisdictions.

CHAPTER THREE

STATUS OF LAND DEGRADATION AND INITIATIVES TO COMBAT LAND DEGRADATION IN TANZANIA

3.1 Status of Land Degradation

Land is a natural resource in which majority of people in the country depend on for their livelihood. However, human actions among other factors have largely contributed to land degradation which has been associated with decreasing land quality and value. In Tanzania land degradation, which is due to unsustainable land management practices, is threatening the social and economic development as well as livelihoods. The consequences of land degradation are numerous and serious including reduced productivity, food insecurity, loss of income and livelihoods, destruction of important ecosystems, loss of biodiversity through changes to habitats and human migration.

3.1.1 Land cover change

Based on the Land degradation report of 2014, there is a detected land cover change based on the analysis conducted for 1980 and 2012. This analysis of 22 years (1980-2012) shows that the total area of bush land in Tanzania has decreased from 19.0% to 17.0%, cultivated lands have increased from 11.0% to 13.0%, with an increasing percent change of 2.0. Similarly, there has been an increase in grassland probably from reduced bush lands and increased fallow from 19.0% to 23.0%. Further analysis shows a decreasing trend of the woodlands from 41.0% to 36.0%. The increasing and decreasing trends of land use/cover changes are very clear for the category of bush lands, grasslands, cultivated land, as well as woodlands. The decrease in woodland cover has contributed to increased land degradation especially in agro ecological zones with high rate of deforestation.

3.1.2 Soil fertility and crop production

Declining soil fertility was perceived as the major indicator of land degradation in the studied areas. The most affected areas were observed in alluvial agro-ecological zone, especially in Usangu Basin where there is deterioration in the fertile Black Mbuga soils of the Western Wetland. The same situation was observed in Northern highlands, various areas of Karatu district. Further evidence of decline in soil fertility has also been reported in Mbeya region, along the foot and slopes of Mporoto Mountains. In the arid and semi-arid areas decline of soil fertility have been experienced in various localities in Chamwino and Kondoa districts. The decline

of soil fertility is manifested by the increasing amounts of fertilizers application per acreage. For instance, farmers in Karatu district reported that fertilizers application for onion production has increased from an average of one to three bags of 50 kg in the 2000 to eight to ten bags per acre in the 2013, and that of rice and maize has increased from zero to 4 bags per acre; depending on the location of farms and the type of soil.

3.1.3 Salinization

It is estimated that some 17,000 km² (2% of the total land area) of Tanzania are naturally affected by salinity, attributed to low rainfall, inherent soil properties and land form. It is also estimated that that salinization has affected 20 to 55% of irrigation schemes in Kilimanjaro, Tanga and Mtwara. In the arid and semi-arid agro-ecological zones where there is potential for irrigation agriculture there is also a potential for increasing secondary salinity and alkalinity in the affected areas. Soil analysis conducted in Bahi and Chali in Dodoma region show that there is high alkaline condition in the Bahi and Chali irrigation schemes. In Singida region, salinization has also been observed around Mgori dam. Some areas in the coastal agro-ecological zone such as Mkurunga and part of Bagamoyo have also been affected by salinization.

Salinization has some effects on soil productivity, crop yields and other economic activities in three different ways: through salinity, sodicity and toxicity. High concentrations of salt leads to reduced crop growth and yield losses since the osmotic pressure causes water scarcity in the cells. Sodicity, the presence of excessive sodium, deteriorates soil structure and reduces water penetration into and through the soil. A good example of the effect of salinization were observed in some areas of Bagamoyo where it has resulted to the disappearance of some crops such as banana and reduction in commercial seed weed productivity due to sea water temperature/salinity. Salinization has also resulted to decline in fish catch and intrusion of salt water in the traditionally used fresh wells.

3.1.4 Soil erosion

Land degradation through soil erosion is a major threat to sustainable use of soil and water resources in the country. The threat is more serious for soils that are highly susceptible to erosion and other derivative processes.

Soil erosion has been and continues to be serious problem in the arid and semi-arid areas where deforestation, shifting cultivation and bushfires is practiced. In Dodoma region in Mpwawa, Kondoa and Kongwa districts soil erosion is alarming. Similar situation is experienced in some areas of Tanga, Shinyanga, Ruvuma, Mbeya,

Kilimanjaro and other regions in the country where erosion has advanced to terrain deformation. This calls for special attention to address the problem.

3.1.5 Soil acidification

Soil acidification is a problem in large parts of the country, and in particular in the southern part of the coastal agro-ecological zones in Mtwara and Lindi regions (FAO, 2004). Soil acidification is associated with the dusting of large quantities of elemental sulfur upon cashew trees aimed at controlling powdery mildew disease, and with an excessive use of nitrogenous fertilizers in maize fields. Soil acidification reduces the productivity of poor and fragile soils by increasing soil acidity, leaching of basic action nutrients (such as Ca, Mg and K), increasing toxic elements in the soil (particularly aluminum), reducing biological nitrogen fixation and creating detrimental conditions for microbial organisms. Soil acidification may also cause aluminum toxicity once the pH drops to below around 4.5. Aluminum is toxic to roots of most cultivated plants, such that root length is drastically reduced restricting exploration of soil nutrients and water.

3.1.6 Siltation

In semi-arid areas soil erosion is a serious problem since fertile soil is eroded and transported away from cultivated areas and the fact that the soil is trapped in reservoirs. Examples include Mgori Dam in Singida and Mabayani Dam in Tanga. Soil erosion from cultivated and pasture land is causing serious increases in sediment and nutrient loads getting into water sources. Siltation causes pollution and drying up of water sources. This is common in most of the areas where water sources are available and farming is done upstream. Siltation has detrimental effect to hydropower production dams. This has been the case in Mtera and Nyumba ya Mungu Dams. Deforestation on the upper parts of Mt. Kilimanjaro and the Pare Mountains as well as inappropriate farming practices around Lake Jipe is contributing to land degradation and siltation of these water reservoirs.

3.1.7 Loss of vegetation

Clearing of forest for crops is one of the most common reasons for loss of vegetation cover in the country. The extent of vegetation loss in country differs from one agro-ecological to another. In the west of Arusha (northern semi-arid lands), the natural vegetation in the area has been considerably destroyed by human activity, and pressure on grazing land has been increasing yearly, resulting in continued depletion of the vegetation. The area most critically affected lies in the rain shadow of Mt. Meru where the soil is composed of very light volcanic ash blown westward by the prevailing wind. Wind erosion is a very serious problem in these areas, while

soil erosion and deposition is rapidly leading to the siltation of the reservoir dams constructed in the western area.

3.1.8 Soil pollution

Pollution is becoming an increasingly serious problem in the major mining areas. Such areas include the gold mining zone around Lake Victoria, Mpanda and Chunya; coal mining in Kiwira and Ngaka; tin mining in Ngara and Kyerwa Districts; ruby mining near Morogoro; tanzanite and phosphate mines in Arusha Region; limestone mines in Dar es Salaam, Tanga and Mbeya Regions; and salt mining along the coastal belt. With the advent of drilling for natural gas and possibly oil in the coastal zone, there may be profound negative impact on the environment especially fragile marine and coastal wetlands.

3.2 Initiatives to Combat Land Degradation

The Government has undertaken various initiatives to curb the situation of land degradation through implementation of Sustainable Land Management (SLM) plans, strategies and programmes in the country. These include National Land Use Framework plan 2011 – 2031; issuing villages guide for participatory planning and management of village land, 2010; National Agriculture Land Use Planning and Management Master plan, 2011; Sector Environmental Action Plans; Mainstreaming Environment into National Strategy for Growth and Poverty Reduction Phase II (MKUKUTA II); Strategy for Urgent Actions on Land Degradation and Water Catchments, 2006 and implementing projects and programme for SLM in Katavi, Kilimanjaro and Tabora.

Some of the existing sector specific interventions are summarized in Table 1.

S/N	SECTOR	INTERVENTION
1.	Land and Human Settlement	<ul style="list-style-type: none"> i) Land use planning and management ii) Preparation of town plans iii) Housing development plans
2.	Agriculture	<ul style="list-style-type: none"> i) Water harvesting techniques for irrigation ii) Efficient small scale irrigation schemes iii) Agricultural best practices techniques such as matengo pits (ngoro) iv) Terracing and contour farming v) Use of organic fertilizers vi) Conservation of water catchments and soil resources

S/N	SECTOR	INTERVENTION
3.	Livestock	<ul style="list-style-type: none"> i) Zero grazing ii) Marketing and infrastructure iii) Charcol dam construction iv) Livestock extension services v) Traditional fodder conservation (Ngitiri) vi) Conservation of water catchments and soil resources
4.	Water	<ul style="list-style-type: none"> i) Integrated Water resource management ii) Rain water harvesting iii) Exploitation of underground water iv) Construction of water dams v) Existence of water user associations and water user rights
5.	Forest	<ul style="list-style-type: none"> i) Participatory forest management (JFM and CBFM) ii) Indigenous knowledge in forest conservation iii) Collection of Non-timber forest products (Medicines, wild fruits and vegetables) iv) alternative income generating activities such as butterfly farming and beekeeping v) Ecosystem conservation vi) Conservation of water catchments and soil resources vii) Agroforestry viii) Ecotourism
6.	Fisheries	<ul style="list-style-type: none"> i) Protection and conservation of aquatic ecosystems ii) Fish farming practices iii) Marketing for fish and fish products iv) Supporting alternative livelihood initiatives for fisheries communities v) Management of geographical areas of concerns and critical habitats vi) Beach Management Units (BMU) vii) Monitoring of fisheries species and habitats viii) Ecotourism ix) Sea weed farming x) Research and Development (R&D)

S/N	SECTOR	INTERVENTION
7.	Energy	<ul style="list-style-type: none"> i) Protection of hydropower catchments ii) Fuel switching iii) Use efficient energy technologies iv) Development of alternative energy sources (Solar, wind and biomass energy)
8.	Wildlife	<ul style="list-style-type: none"> i) Conservation of Wildlife resources ii) Establishment of Wildlife Management Areas (WMAs) iii) Involvement of local communities in managing wildlife resources iv) Conservation of water catchments and soil resources v) Protection of areas of scenic beauty and cultural values
9.	Industries	<ul style="list-style-type: none"> i) Value addition of raw materials ii) Processing, Marketing and selling iii) Use of cleaner technologies and production
10.	Tourism	<ul style="list-style-type: none"> i) Promoting Ecotourism ii) Diversification of tourism attractions
11.	Coastal and Marine	<ul style="list-style-type: none"> i) Coastal erosion control ii) Protection and management of mangroves iii) Protection of coastal forests iv) Conservation of critical habitats
12.	Wetland	<ul style="list-style-type: none"> i) Conservation awareness activities ii) Restoration of wetlands iii) Designation of Ramsar sites iv) Implementation of projects and programmes related to conservation of wetlands v) Conservation of water catchments and soil resources
13.	Finance	<ul style="list-style-type: none"> i) Financial Mechanism (VICOBA, SACCOS)

CHAPTER FOUR

GUIDELINES FOR MAINSTREAMING NAP INTO SECTORAL POLICIES, PLANS AND PROGRAMMES

4.1 General Guidelines

This Section describes a step by step practical guide for mainstreaming desertification, land degradation and drought issues into sectoral policies, plans and programmes. These steps are; sectoral DLDD situational analysis; institutional situational analysis; identification of potential interventions for mainstreaming DLDD issues for sectors; setting up sectoral mainstreaming action plans; monitoring and evaluation and reporting.

4.1.1 Sectoral DLDD Situational Analysis

Desertification, Land Degradation and Drought situational analysis looks at how the sector is affected, level of vulnerability and how it addresses DLDD challenges. It intends to support identification of DLDD mainstreaming opportunities of the sector which can be integrated into respective policies, plans and programmes. The process should involve the following steps:-

- a) *Analyze susceptibility to DLDD*
 - i) Document the extent and nature of the sector's exposure and sensitivity to DLDD both short and long term plans;
 - ii) Identify the most important DLDD variables and indicators that the sector may be sensitive to;
 - iii) Identify sectoral vulnerability indicators; and
 - iv) Identify various approaches/tools that may be applied in analyzing sectoral vulnerability to DLDD. These may include (but not limited to), application of user friendly tools/approaches available in the UNCCD Portal, Literature Review, Expert opinion, Land Degradation Trend Analysis, Strategic Environment Assessment, Evidence Based Approaches and application of global models

- b) *Evaluate Sectoral DLDD Impacts*
 - i) Identify existing DLDD measures in the sectors;
 - ii) Analyze and review sectoral Policy, Plans and Programmes to identify gaps; and
 - iii) Evaluate appropriateness of existing SLM Best Practices option for the sectors by reviewing different studies and involving key stakeholders in identifying, using and up scaling best practices from other areas
- c) *Analyze Sectoral DLDD Impacts*
 - i) Identify and document the past DLDD impacts affecting the sector;
 - ii) Identify and analyze impacted areas (thematic and geographical); and
 - iii) Identify the challenges and opportunities emanating from DLDD impacts in the sector.

4.1.2 Institution Situation Analysis

This can be done through the following:-

- i) Provide overview of institutional arrangement including administration, roles, responsibilities, and existence of Sectoral Environment Section. A sector organization chart (organogram) should be included.
- ii) Analyze the institution adequacy in relation to realization of mainstreaming NAP objectives by undertaking institutional analysis on the Strength, Weakness, Opportunities and Challenges using a SWOC analysis approach in terms of human resources, finance, institutional arrangement/organization, technology, legislation and awareness; and
- iii) Undertake the analysis of sectoral linkages with and involvement of key stakeholders in combating DLDD. Such key stakeholders may include MDAs, LGAs, Private Sector, CSOs, Education Institutions and Bilateral International/ Regional Organizations.

4.1.3 Potential Interventions for Integrating NAP in sectoral Policies, Plans and Programs

Based on the reviewed Sector Policy, Programmes, Plans and Strategies as well as identified potential sectoral DLDD and Institutional Situation Analysis as Clarified in sections 4.2 and 4.3:

- i) Provide/suggest potential interventions for combating desertification at each level (Policy, Strategy, Plans and Programmes) and measures for enhancing institutional combating desertification capacity in areas such as human resources, finance, institutional arrangement/organization, technology, legislation and awareness;
- ii) Integrate the proposed interventions into Sectoral Policy, Strategy, Plans and programmes;
- iii) Consider other cross cutting issues including gender, science and technology and vulnerable groups while integrating these interventions into Policy, Plans and Programme;
- iv) In the course of integration, reference should be made to various documents such as Tanzania Development Vision, 2025; Five Year Development Plan, 2011; National Strategy for Growth and Reduction of Poverty II, 2010; National Environmental Policy, 1997; Environmental Management Act, Cap 191; National Adaptation Programme of Action, 2007; National Adaptation Strategy and Action plan, 2009; National Women and Gender Development Policy, 2000; and other relevant sectoral policy documents;
- v) Establish sustainable financial mechanisms to address DLDD issues; and
- vi) Disseminate/communicate DLDD interventions integrated into policy, plan and programmes to key stakeholders.

4.2 Sector Potential Interventions for Mainstreaming NAP

This Chapter provides framework guidelines for mainstreaming NAP into Government policies, programmes and plans. This includes macro-economic development plans and strategies as well as sectoral policies, plans and strategies.

Mainstreaming NAP guidelines developed following a review of the policies, programmes and plans in which priorities, opportunities and gaps for improvement in the context of DLDD were identified. These provided platform for achieving Sustainable Land Management (SLM) in Tanzania

4.2.1 National Development Plans and Strategies (Finance)

a) Macro-economic Framework

Tanzania Development Vision 2025: The Vision seeks to transform Tanzania into a middle-income country by the year 2025, with a per capita income of USD 3,000 (in

nominal terms) by 2025. It is envisioned that the following specific achievements would be attainable by the year 2025: high quality livelihood; good governance and the rule of law; and a strong and competitive economy.

Second National Strategy for Growth and Reduction of Poverty (NSGRP II) (2010-2015): The Strategy emphasizes on: prioritization of interventions in key priority growth and poverty reduction sectors; strengthening evidence based planning and resource allocation in the priority interventions; aligning strategic plans of Ministries, Departments and Agencies (MDAs) and Local Government Authorities (LGAs) to this strategy; scaling up the role and participation of the private sector in priority areas of growth and poverty reduction; mainstreaming cross cutting issues in MDAs and LGAs processes; strengthening the monitoring and reporting systems; and better implementation of core reforms, including further improvement of public financial management systems .

Tanzania Five Year Development Plan (TFYDP-I) (2011/12-2015/16): The Plan targets five core priorities to unleash Tanzania's latent growth potentials. They include: (i) Infrastructure, and in particular large investments in energy, transport infrastructure (ports, railways, roads, air transport), water and sanitation and ICT; (ii) agriculture, focusing on the transformation of agriculture for food self-sufficiency and export, development of irrigation particularly in selected agricultural corridors, and high value crops including horticulture, floriculture, spices, vineyards etc.; (iii) industrial development specifically targeting industries that use locally produced raw materials such as textiles, fertilizer, cement, coal, iron and steel, as well as development of special economic zones, using public-private partnerships; (iv) human capital and skills development, with an emphasis on science, technology and innovation; and (v) tourism, trade and financial services.

b) NAP Mainstreaming Guidelines

- i) Facilitate transformation of the economy from a predominantly agricultural one with low productivity to a diversified and semi-industrialized economy with a modern rural sector and high productivity in agricultural production;
- ii) Integrate environmental dimension in economic planning by taking into consideration the impact and the cost of environment in macro-economic planning;
- iii) Provide enabling environment such as infrastructure (especially energy, transport and communications), human resources and legal frameworks geared towards stimulating economic activity and private investment;

- iv) Support accelerated development and deployment of new technologies that address DLDD impacts; and
- v) Promote science and technology education.

4.2.2 Agriculture

a) Policies and Plans

National Agriculture Policy (2013): The Policy emphasizes that for long term future of the country, the natural resources (land, soil, water and forests) must be managed so that agriculture is sustained. Some of the relevant policy interventions of relevance to DLDD are to: promote intensification and diversification of agriculture production; soil erosion control and soil fertility improvement; minimize encroachment in public lands including forests, woodlands, wetlands and pasture; strengthen agrochemical monitoring and registration; promote agro-forestry and organic farming; minimize pollution of both surface and ground water; improve water use efficiency in irrigation; and intensify plant genetic conservation programmes.

National Irrigation Policy (2010): The main objective is to ensure sustainable availability of irrigation water and its efficient use for enhanced crop production, productivity and profitability that will contribute to food security and poverty reduction.

Agricultural Sector Development Strategy (ASDS) (2001): The primary objective of the ASDS is to create an enabling and conducive environment for improving profitability of the agricultural sector as the basis for improved farm incomes and rural poverty reduction in the medium and long-term. The ASDS address the following critical issues: institutional framework for managing agricultural development; private sector participation; improving net farm returns and commercializing agriculture; and mainstreaming planning for agricultural development in other sectors

Agricultural Sector Development Programmes (ASDP): The ASDP provides the operational instrument for implementing the ASDS. It mobilizes incremental resources for the sector in a coordinated manner, facilitates ASDS implementation, and brings added-value to the current approaches to sector investment management. ASDP therefore enhances streamlining of cross-cutting issues and multi-sectoral activities in agricultural interventions, enhances cross-sectoral coordination to bring synergies between agricultural and other sectors and monitors progress and assesses impact of interventions to achieve ASDS and PRSP targets, and shares information with stakeholders.

"Kilimo Kwanza" Declaration (2009): is a national resolve to accelerate agricultural transformation. It comprises a holistic set of policy instruments and strategic

interventions towards addressing various sectoral challenges and taking advantage of the numerous opportunities to modernize and commercialize agriculture in Tanzania. The implementation of KILIMO KWANZA revolves around ten pillars, namely

- i) Political will to push our agricultural transformation;
- ii) Enhanced financing for agriculture;
- iii) Institutional reorganization and management of agriculture;
- iv) Paradigm shift to strategic agricultural production;
- v) Land availability for agriculture;
- vi) Incentives to stimulate investments in agriculture;
- vii) Industrialization for agricultural transformation;
- viii) Science, technology and human resources to support agricultural transformation;
- ix) Infrastructure development to support agricultural transformation; and
- x) Mobilization of Tanzanians to support and participate in the implementation of KILIMO KWANZA.

Tanzania Agriculture Food Security Investment Plan (TAFSIP): The goal of the TAFSIP is to “contribute to the national economic growth, household income and food security in line with national and sectoral development aspirations”. It aims to “rationalize allocation of resources to achieve annual 6% agricultural GDP growth, consistent with national objectives to reduce rural poverty and improve household food and nutrition security”. TAFSIP consider cross cutting issues include but not limited to (i) empowerment of vulnerable groups; (ii) gender equality and equity, (iii) conservation farming practices, (iv) control of air and water pollution; other issues are also recognized in the framework.

Southern Agriculture Growth Corridor of Tanzania (SAGCOT) (2010): The objectives of the SAGCOT Program are to have long-term positive socio-economic impacts throughout the Corridor, focused on priority clusters. Through the Catalytic Fund, the Project aims to provide opportunities for smallholder producers to engage in profitable agriculture, support agribusiness investment and development along the value chain, and build supply chains which include smallholder and emergent farmers and benefit rural communities. However, the SAGCOT Program is also likely to have significant environmental and social impacts associated with the numerous development challenges in the region and the Corridor’s important biodiversity and ecosystem services. Such concerns must raise the level of scrutiny for all development schemes in the Corridor.

b) NAP Mainstreaming Guidelines

- i) Integrate implementation of 'KILIMO KWANZA' in relevant national plans and strategies and carry out Strategic Environmental Assessment (SEA) to ensure environmental issues are adequately integrated;
- ii) Promote value addition to agricultural products and strengthen linkage between agriculture and industry and increase access to local and foreign markets for value added products;
- iii) Strengthen the production of non-traditional export commodities to enhance the diversification of agriculture;
- iv) Expand organic farming and other environmentally friendly agricultural production systems;
- v) Promote development and application agricultural genetic modification to contribute in improving in productivity while ensuring that the introduction of GMO crops (laboratory research, confined field trial and commercial release) adhere to national biosafety regulatory framework;
- vi) Expand and improve irrigation infrastructure;
- vii) Use of appropriate low cost technologies blended with modern affordable technologies like drip and sprinkler irrigation systems and the use of wind and solar power for pumping water;
- viii) Ease availability and enhance utilization of modern agricultural inputs and mechanization;
- ix) Up scaling the SLM best Practices ;
- x) Establish and strengthen Financial mechanisms for combating DLDD;
- xi) Strengthen early warning system;
- xii) Integrate DLDD and environmental issues in educational curricula of agricultural training institutes; and
- xiii) Strengthen the linkage between research and agricultural extension; and

4.2.3 Livestock

a) Policies and Plans

National Livestock Policy of 2006: The overall objective of the Policy is to develop a competitive and more efficient livestock industry that contributes to the improvement of the well being of the people whose principal occupation and livelihood is based on livestock. The specific objectives of the National Livestock Policy are to:-

- i) Contribute towards national food security through increased production, processing and marketing of livestock products to meet national nutritional requirements;
- ii) Improve standards of living of people engaged in the livestock industry through increased income generation from livestock;
- iii) Increase the quantity and quality of livestock and livestock products as raw materials for local industry and export;
- iv) Promote integrated and sustainable use and management of natural resources related to livestock production in order to achieve environmental sustainability;
- v) Strengthen technical support services, develop and disseminate new technologies;
- vi) Develop human resources including livestock farmers;
- vii) Promote production of safe and quality foods of animal origin in order to safeguard consumers;
- viii) Promote the use of draught animal power and biogas utilization; and
- ix) Mainstream cross-cutting and cross-sectoral issues such as gender, HIV/AIDS, land and environment.

Livestock Sector Development Strategy (2010): The overall objective of the LSDS is to develop a competitive and more efficient livestock industry that contributes to the improvement of the livelihoods of all livestock keepers and the national economy. The specific objectives of the LSDS as defined under the NLP shall be to:

- i) Contribute towards national food security through increased production, processing and marketing of livestock products to meet national nutritional requirements;

- ii) Improve living standards of the people engaged in the livestock industry through increased income generation from livestock;
- iii) Increase the quantity and quality of livestock and livestock products as raw materials for local industry and for export;
- iv) Promote integrated and sustainable use and management of natural resources related to livestock production in order to achieve environmental sustainability;
- v) Promote production of safe and quality foods of animal origin in order to safeguard health of consumers;

Livestock Sector Development Programmes (2011): The overall goal of the LSDP is to increase food security, stakeholder's incomes and contribution to the national economy. The purpose of the programme is to improve the livelihoods of the livestock farmers (pastoralists and agropastoralists) by enhancing the delivery of livestock inputs and services to livestock farmers; improving marketing infrastructure and marketing systems for livestock and livestock products; strengthening the capacity of livestock farming communities and the private sector; and strengthen national and local government institutions to provide services to the livestock sector.

b) NAP Mainstreaming Guidelines

- i) Increase production, processing and marketing of livestock products to meet national nutritional requirements;
- ii) Improve living standards of the people engaged in the livestock industry through increased income generation from livestock;
- iii) Increase the quantity and quality of livestock and livestock products as raw materials for local industry and for export;
- iv) Promote integrated and sustainable use and management of natural resources related to livestock production in order to achieve environmental sustainability;
- v) Promote production of safe and quality foods of animal origin in order to safeguard health of consumers;
- vi) Enhance development of livestock infrastructure;
- vii) Enhances integrated rangeland management;
- viii) Upscale SLM best practices in Livestock development; and
- ix) Establish and strengthen Financial mechanisms for combating DLDD

4.2.4 Water

a) Policies and Plans

National Water Policy (2002): The main objective of the Policy is to develop a comprehensive framework for sustainable development and management of the water resources, in which an effective legal and institutional framework for its implementation will be put in place. The Policy embodies the principle that water basins should be the planning and management units rather than regions, and the principles of decentralization of water supply management to the lowest appropriate level.

National Water Sector Development Strategy (NWSDS) (2005-2015): The main objective of the NWSDS is to develop a coherent, holistic and integrated strategy for the water sector. The Strategy promotes inter-sectoral linkages of water resources management through public education and awareness programmes as well encouraging inclusion in the education curricula.

b) NAP Mainstreaming Guidelines

- i) Identify, protect, demarcate and acquire land title deeds for water sources and infrastructure;
- ii) Classify all water sources on the basis of quality and quantity, and determine and allocate minimum water requirements for ecosystem needs for all regulated and unregulated water sources;
- iii) Promote use of environmentally friendly technologies including gravity, solar and wind power for water pumping;
- iv) Enforce the “polluter pays” principle in conjunction with other legal and administrative actions that promote water conservation;
- v) Encourage and facilitate industries to adopt cleaner production technologies and techniques;
- vi) Promote safe and affordable off-site waste management services (sewerage and sludge collection, treatment and reuse/disposal) for densely populated areas;
- vii) Ensure that industries pre-treat their wastewater before discharging into municipal sewerage system;

- viii) Institute comprehensive water quality monitoring and assessment to identify extent and status of the quality of the water resources;
- ix) Promote and facilitate reuse of wastewater whenever appropriate in different economic sectors;
- x) Implement improved sanitation for schools, health facilities and other public institutions and locations;
- xi) Enhance storm water management to mitigate impacts on properties, infrastructure, human and the environment;
- xii) Promote Integrated Water Resource Management (IWRM);
- xiii) Promote and upscale SLM best practices such as rain water harvesting for domestic, agriculture and industrial use; and
- xiv) Establish and strengthen Financial mechanisms for combating DLDD.

4.2.5 Energy

a) Policy and Plans

National Energy Policy (2003): The Policy aims at ensuring availability of reliable and affordable energy supplies and their use in a rational and sustainable manner in order to support national development goals. The goal of the Policy is to establish an efficient energy production, procurement, transportation, distribution and end use systems in an environmentally sound and sustainable manner.

b) NAP Mainstreaming Guidelines

- i) Promote efficient woodfuel conversion and utilization technologies such as improved charcoal production technology, improved cooking stoves, use of bio-waste, and biogas production;
- ii) Provide economically justified feed-in tariffs or other mechanisms to give incentives and reduce risks for electricity production from renewable sources;
- iii) Promote research and development efforts aimed at dissemination of energy technology for rural development;
- iv) Promote use of clean coal energy and natural gas for domestic, industrial and commercial applications;

- v) Promote power trading with neighbouring countries; Promote sustainable production and utilization of bio-energy to improve energy security;
- vi) Encourage and promote energy efficiency in all sectors;
- vii) Institute energy pricing with due regard to social and environmental costs
Conduct and/or encourage energy audits particularly in energy intensive industries;
- viii) Encourage community investment and ownership of energy systems e.g. solar farms, windmills and woodlots;
- ix) Use of the Clean Development Mechanism to facilitate the development of environmentally sound energy and reduction of emission;
- x) Promote co-generation of power by exploiting the biomass potential;
- xi) Promote SLM best practices such as wind power and solar power; and
- xii) Establish and strengthen Financial mechanisms for combating DLDD.

4.2.6 Industry

a) Policies and Plans

Sustainable Industrial Development Policy (SIDP) (1996): The major goal of the Policy is to promote the sustainable productive base which maximizes the growth rate and sustainability of economic growth. Emphasis is given to development of intermediate and capital goods industries as agents for enhancing sustainable productivity, technological progression as well as structural transformation and integration. Furthermore, the Policy promotes environmentally friendly and ecologically sustainable industrial development.

Integrated Industrial Development Strategy 2025 (IIDS 2025): The aim of the Strategy is to enhance industrialization under the newly emerging economic environment and contribute to the realization of targets stipulated in Tanzania Development Vision (TDV) 2025. The Strategy targets four sub-sectors, in view of comparative advantages, length of value chain and availability of resources, and these are: fertilizer and chemicals; iron and steel; textile; agro-processing; edible oil; cashew nut processing; fruit processing; milk and milk products; leather and leather products; light machinery; and hospitality industry. The Strategy targets an average growth of manufacturing sector of 15% and to increase its contribution to GDP from 9% in 2010 to 23% in 2025.

Small and Medium Enterprise (SMEs) Development Policy (2003): The overall objective of the SMEs Development Policy is to foster job creation and income generation through promoting the creation of new SMEs and improving the performance and competitiveness of the existing ones.

National Trade Policy (2003): The policy goal is to facilitate smooth integration into the multilateral Trading System (MTS) and roll back the gradual descent towards marginalization. It is intended to ensure that trade liberalization offer meaningful, identifiable and measurable benefits. The policy emphasizes trading while protecting the environment by encouraging growth and development to be sustainable and optimal use of the world's renewable and non-renewable resources.

b) NAP Mainstreaming Guidelines

- i) Promote clustering (industrial packs) at every level and every feasible location to accelerate growth dynamism and to improve efficiency of industries;
- ii) Evaluate infrastructure needs of new industries and how they can be integrated into existing policies on infrastructure;
- iii) Encourage investment in industries that utilize local resources;
- iv) Promote rural industrialization through promotion of SMEs and up-grading of rural enterprises so as to add value to agro-products;
- v) Enhance supply chain linkages between SMEs and export oriented enterprises;
- vi) Promote environmentally friendly or resource efficient industrial production/manufacturing;
- vii) Encourage minimization of use of energy intensive process steps such as high heating differentials, heavy motors and extensive cooling in order to reduce the amount of energy needed by the production process;
- viii) Support investigation of external markets for recycling by other industrial processing operations located in the neighborhood or region (e.g., waste exchange);
- ix) Promote and facilitate innovation and creativity in enhancing sustainability of industries;

- x) Promote industrial investments which integrate pollution prevention programmes;
- xi) Ensure that environmental considerations are given due emphasis in all SME development interventions;
- xii) Enhance networking between R&D Institutions and SMEs to upgrade technologies so as to raise the productivity and competitiveness of the sector;
- xiii) Facilitate adoption of production/manufacturing technologies which utilize renewable energy;
- xiv) Emphasis use of clean technology (eco-labeling) in manufacturing process and energy efficiency in goods and service with less toxic outputs; and
- xv) Facilitate establishment or strengthening of a development fund for technology upgrading of production processes of firms with a national and international value chain.
- xvi) Upscale SLM best practices in Industry development (value addition, spice industry, fruit processing etc); and
- xvii) Establish and strengthen Financial mechanisms for combating DLDD

4.2.7 Tourism

a) Policy

National Tourism Policy, 1999: The Policy acknowledges the relationship between the environment and development of sustainable tourism. Thus, it aims to ensure that development of tourism is based on careful assessment of carrying capacities of tourism products. It also ensures enhancement and improvement of special environment features in order that tourism development does not conflict with indigenous forests, beaches, mountains and other important types of vegetation.

b) NAP Mainstreaming Guidelines

- i) Institute environmental management plans for each tourist attraction;
- ii) Support and promote ecotourism projects. Eg conservation and promotion of cultural heritage sites in order to decrease pressure in every impacted areas;

- iii) Ensure negative impacts of tourism on the natural and cultural environment are avoided or minimized through the responsible use of resources, effective waste management and minimizing pollution;
- iv) Recognize best practices in tourism through awards, certification and accreditation programmes;
- v) Promote participatory approach in planning and decision making, development and delivery of tourism programmes and services;
- vi) Support strategies that would ensure the informal sector benefits more from tourism;
- vii) Promote mutual use of facilities and services by local communities and tourists;
- viii) Support visits by local school children to tourism sites that promote and display their heritage;
- ix) Upscale SLM best practices in tourism development; and
- x) Establish and strengthen Financial mechanisms for combating DLDD

4.2.8 Forestry

a) Policy Framework

National Forest Policy, 1998: The overall goal of the Policy (1998) is to enhance the contribution of the forest sector to the sustainable development of Tanzania and the conservation and management of her natural resources for the benefit of present and future generations. The Policy, among other aspects, recognizes the high value of forests due to the high potential for royalty collection, earnings from exportation of forest products and tourism as well as sequestering of carbon. Furthermore, the policy emphasizes on biodiversity conservation and describes the importance of forest ecosystems for maintaining biodiversity. Broadly, the policy focuses on ensured ecosystem stability through conservation of forest biodiversity, water catchments, and soil fertility.

b) NAP Mainstreaming Guidelines

- i) Promote integrated watershed management approaches;
- ii) Promote afforestation and reforestation (A&R) programmes to generate and regenerate forests which are critical for environmental protection and reduction of land degradation;

- iii) Support diversification in forest utilization especially through promotion of non-consumptive use of forests such as eco-tourism and beekeeping;
- iv) Integrate carbon sequestration and the provision of carbon sinks in the planning, management, utilization and monitoring of forests;
- v) Institute forest monitoring mechanisms for potential risks of insects, diseases, invasive alien species and fire;
- vi) Institute certification mechanism for promoting environmental conservation;
- vii) Promote development of ecotourism in protected areas like nature reserves, to generate income for local and national benefits;
- viii) Facilitate economic and market valuation to better recognize the full range of goods (wood, fiber, bioenergy, non-wood forest products) and environmental services (storage of carbon, conservation of biological diversity, protection of soil and water and provision of ecotourism, recreation and amenity value) from forests;
- ix) Promote equitable sharing of benefits from forest resources among the stakeholders; Facilitate integration of the full value of forest goods and services in planning, management, monitoring and reporting, particularly by central government and local authorities;
- x) Promote development of viable and efficient forest-based industries, particularly in secondary and tertiary processing for full utilization of forest products, reduce excessive waste and satisfy domestic and export demand. through appropriate incentives;
- xi) Introduce performance bonds for forest harvesting to improve best practice and to ensure responsible management;
- xii) Promote SLM best practices such as CBFM, JFM and Traditional Forest Management; and
- xiii) Establish and strengthen Financial mechanisms for combating DLDD.

4.2.9 Mining

a) Policy Framework

Mineral Policy of Tanzania, 2009: One of the objectives of the Policy is to reduce or eliminate adverse environmental effects of mining by promoting health and safety conditions in mining areas and addressing social issues affecting local communities. It requires mining operations to carry out Environmental Impact Assessment (EIA) and directs mining companies to set aside funds for environmental rehabilitation and mine closure obligations.

b) NAP Mainstreaming Guidelines

- i) Promote efficient mineral processing for value addition where there is comparative advantage to do so;
- ii) Promote the application of environmentally friendly technologies and methods in mineral exploitation;
- iii) Enhance local capacity for mineral analysis;
- iv) Ensure compliance to mine closure plan contained in respective Environmental Management Plans (EMPs);
- v) Establish monitoring programmes and/or early warning systems for the assessment of potential pollution and for the detection of pollution events from closed mines;
- vi) Provide extension services and facilitate access to appropriate technology, funding mechanisms and partnerships for artisanal and small scale miners; and
- vii) Encourage corporate social responsibility.

4.2.10 Land

a) Policy Framework

National Land Policy (1997): The overall aim of National Land Policy is to promote and ensure a secure land tenure system, to encourage the optimal use of land resources, and to facilitate broad – based social and economic development without upsetting or endangering the ecological balance of the environment.

b) NAP Mainstreaming Guidelines

- i) Promote an equitable distribution of and access to land by all citizens including vulnerable groups;
- ii) Ensure that existing rights in land especially customary rights of small holders (i.e. peasants and herdsmen who are the majority of the population in the country) are recognized, clarified and secured in law;
- iii) Prevent or avoid the phenomenon of land grabbing;
- iv) Ensure that land is put into its most productive use to promote rapid social and economic development in the country;
- v) Modify and streamline the existing land management systems and improve the efficiency of land delivery systems;
- vi) Streamline the institutional arrangements in land administration and land dispute adjudication and also make them more transparent;
- vii) Promote sound land information management system;
- viii) Protect resources from degradation for sustainable development; and
- ix) Establish and strengthen Financial mechanisms for combating DLDD.

4.2.11 Coastal and Marine

a) Policy Framework

Fisheries Sector Policy and Strategy Statement (1997): The policy acknowledges the linkage between the sustainable exploitation of fish resources and the provision of high quality food, income and employment. Though the linkage between poverty and environment is recognized, the role of poverty as a constraint to sustainable management of fisheries resources, or possibility of developing positive environment/poverty linkages, is not highlighted in the policy.

b) NAP Mainstreaming Guidelines

- i) Ensure that the Fisheries sector and fishing communities are resented and / or consulted in the decision making process and involved in other activities related to coastal area management, planning and development.
- ii) Promote the establishment of procedures and mechanism at appropriate administrative level to settle conflicts which arise within the fisheries

sector and between fisheries resources users and other users of coastal area.

- iii) Facilitate the adoption of fisheries practice that avoid conflict among fisheries resources users and between them and other users of the coastal areas.
- iv) Promote multidisciplinary research in support of coastal areas management in particular on its environmental, biological, economic, social, legal and institutional aspects.
- v) Promote the creation of awareness of the need for the protection and management of coastal resources and the participation in the management process by those affected;
- vi) Promote SLM best practices such as CBFM, JFM and Traditional Forest Management; and
- vii) Establish and strengthen Financial mechanisms for combating DLDD.

4.2.12 Fisheries

a) Policy and Strategies

National Fisheries Sector Policy and Strategy Statement, 1997: The Policy focuses on the promotion of sustainable exploitation, utilization and marketing of fish resources to provide food, income, employment and foreign exchange, earnings and effective protection of the aquatic environment to sustain development.

Fisheries Sector Development Programme (2010): The overall goal of the Fisheries Sector Development Programme (FSDP) is to develop a sustainable, competitive and more efficient fisheries and aquaculture industry that contributes to the improvement of the livelihoods of stakeholders and the national economy while preserving the environment. The specific objectives of FSDP are to:

- i) Ensure effective fisheries resources management, protection and
- ii) conservation;
- iii) Strengthen fisheries and aquaculture products utilization and marketing;
- iv) Strengthen and support fisheries and aquaculture research, training extension and information services;

- v) Develop and strengthen appropriate fisheries and aquaculture
- vi) Infrastructure; and
- vii) Promote aquaculture development, management and environmental conservation.

b) NAP Mainstreaming Guidelines

- i) Encourage value addition to fish and fishery products;
- ii) Promote environmental friendly fishing gear, methods and practices;
- iii) Promote small scale and/or semi intensive aquaculture technologies and develop necessary infrastructure and support services;
- iv) Improve current extension services through public-private partnerships;
- v) Institute specification of access rights and controlled access to fisheries resources;
- vi) Encourage sustainable exploitation of under-utilized fisheries;
- vii) Promote fisheries co-management approach;
- viii) Promote use of appropriate fishery post-harvest handling and processing technologies;
- ix) Discourage land-based activities that have negative impact on biodiversity in the catchment areas;
- x) Ensure protection and rehabilitation of fragile aquatic ecosystems including wetlands and mangroves which act as fish breeding grounds and buffer zones;
- xi) Protect endangered and threatened aquatic species;
- xii) Institute preventive and control measures for the spread of noxious-water weeds such as water hyacinth;
- xiii) Promote SLM best practices in fisheries development; and
- xiv) Establish and strengthen Financial mechanisms for combating DLDD.

4.2.13 Wildlife and Wetlands

a) Policy Framework

Wildlife Policy of Tanzania (2007): The Policy focuses on wildlife protection and conservation in order to ensure sustainability of wildlife ecosystems. Some of the objectives of the Policy include establishment of Protected Areas (PA); maintenance and development of a PA network in order to enhance biological diversity; conservation of wildlife and its habitats outside the core areas by establishing Wildlife Management Areas (WMAs) conserve water catchments and soil resources, protect areas of scenic beauty or cultural values and create opportunities for access to natural resources for enhancement of rural development.

b) NAP Mainstreaming Guidelines

- i) Adopt an ecosystem-based management approach to wildlife conservation and management;
- ii) Enhance the use of indigenous knowledge in the conservation and management of wildlife;
- iii) Establish comprehensive wildlife resources database at all management levels for use in the policy, conservation planning and management decision-making processes;
- iv) Promote the processing of wildlife products locally and their marketing;
- v) Encourage diversification of the tourism product base to reduce pressure on wildlife resources and maximize economic benefits;
- vi) Ensure that benefits arising from access to genetic resources such as intellectual property rights, traditional knowledge and technology are shared equitably with communities living in areas adjacent to the protected areas; where the genetic material originated;
- vii) Establish collaborative management arrangements and joint ventures that enhance local community and private sector involvement in the management of protected areas;
- viii) Ensure conservation of wetlands for water storage, distribution, filtration and purification;
- ix) Promote gender equity in sustainable management, conservation, utilization and development of wildlife and wetlands resources;

- x) Regulate the importation of exotic species and the re-introduction of species including genetically modified organisms (GMOs); and
- xi) Institute control and preventive measures for invasive alien species in protected areas.
- xii) Promote SLM best practices in Wildlife and Wetland Management; and
- xiii) Establish and strengthen Financial mechanisms for combating DLDD.

4.2.14 Transport

a) Policy Framework

National Transport Policy (2003): The Policy has five main objectives and goals namely: the need for a coherent policy, institutional arrangements, laws and regulation, sector capacity building and technological development. In addition, it emphasizes on incorporation of environment protection and management measures at the design and development stages of transport infrastructure and when providing service; strengthening of institutional framework and legislation for the provision of effective, reliable and integrated transport service; and enhancing technical and managerial capacity building in the transport sector. It further states that the low science and technology base is one of the main challenges in technological development.

b) NAP Mainstreaming Guidelines

- i) Identify the modes of transport and the most economic corridors to be used for development planning;
- ii) Define and integrate into the priority strategic rural road network that allow linkages between agricultural and market centres of the country;
- iii) Develop railway corridors to link strategic economic areas (e.g. agriculture and mining);
- iv) Establish an efficient urban public transportation system in major cities and towns to reduce congestion, pollution, costs, and increase mobility for both the urban and rural population;
- v) Develop and create intermediate means of transportation, especially in the rural areas;
- vi) Establish a permanent inspection and maintenance programme for vehicles and other equipment related to the transport sector;

- vii) Establish regulations and tariffs against pollution emissions from vehicles;
- viii) Establish mitigation measures focused on the reduction of environmental impact of transport development projects;
- ix) Promote diversification of the modes of transport, and improvement of the quality of the transport services on the transit corridors.
- x) Promote SLM best practices in transport; and
- xi) Establish and strengthen Financial mechanisms for combating DLDD

4.2.15 Health

a) Policy Framework

National Health Policy (2007): The objective of the Policy towards environmental health is to protect community health by enhancing sustainable environmental health. To achieve this objective, some of the policy statements are to:-

- i) Ensure that the community adhere to environmental health standards;
- ii) Improve waste management systems including disposal of hospital wastes;
- iii) Continue to educate health service providers on the importance of environmental health in their working areas;
- iv) Review and enact laws and procedures for conservation and protection of the environment; and
- v) Continue to involve stakeholders in protecting natural resources.

b) NAP Mainstreaming Guidelines

- i) Promote preventive and regenerative healthcare which lower the need for subsequent resource-intensive interventions;
- ii) Improve access and services in the general health care delivery system;
- iii) Promote technologies in support of sanitation, environmental and occupational health;
- iv) Strengthen application of high impact interventions on the control of diseases which are the main contributors to the burden of morbidity and mortality, and the loss of productivity in the country;

- v) Strengthen epidemiological surveillance system to ensure effective detection of potential epidemics;
- vi) Promote integration of indigenous herbal and traditional knowledge and practices into the healthcare sector;
- vii) Promote research into plant medicine to complement allopathic medicine and commercialization of the research results;
- viii) Establish specialized health centers to promote health tourism; and
- ix) Create community awareness on issues related to environmental health by establishing health related programmes such as food hygienic, separation of wastes and pollution control at households;
- x) Promote best practices in Health sector; and
- xi) Establish and strengthen Financial mechanisms for combating DLDD

4.3 Sectoral Mainstreaming Action Plan

Each MDAs and LGAs should develop detailed action plan as shown below

Issue	Priority actions	Targets	Expected output	Indicator	Time frame	Unit Cost (Tshs.)	Key Actors	Funding Sources
1	2	3	4	5	6	7	8	9

4.4 Monitoring and Evaluation

Provide combating desertification performance indicators for monitoring and evaluation (M&E) purposes. To facilitate M&E each actor should prepare Monitoring Plans, Evaluation Plans, Reporting Plan and establish Planning review methodologies.

CHAPTER FIVE

OPERATIONALIZATION OF THE GUIDELINES

5.1 Introduction

This chapter aims at making the guideline operational. It articulates some of the generic activities that need to be undertaken in operationalizing the guidelines. It also describes key actors and their roles in facilitating the operationalization of the guidelines. Some of the key issues that are prioritized for making the guidelines operational include coordination and dissemination, finance mobilization, integration NAP into policies, plans and programmes, monitoring, evaluation and reporting of the guidelines.

5.2 Standard for operationalization

The overall coordination and dissemination of the guidelines is the responsibility of the Vice President's Office (VPO). The guidelines will be disseminated to stakeholders such as MDAs, LGAs and Non State Actors through workshops, National commemoration days, VPO website and booklets. The existing National Sustainable Land Management Steering Committee; the National Sustainable Land Management Technical Committee and the Environmental Working Group (EWG) are responsible for overseeing and playing an advisory role in operationalizing the guidelines.

The financing of the guidelines is done through General Budget Support (GBS). The mainstreaming interventions are integrated in each MDAs and LGAs through respective Medium Term Expenditure Frameworks (MTEF) for implementation. More resources are expected to be mobilized from international and regional funds, funds under the UNCCD and Global Mechanism (GM), bilateral, individuals and foundations funds.

The integration of the NAP into respective sectoral policies, plans and programmes is the responsibility of the relevant MDAs. Specifically, the MDAs will undertake DLDD situation analysis, identify relevant mainstreaming activities, prepare projects, programmes, action plans and mobilize funds for integration of NAP. The Prime-Minister's Office-Regional Administration and Local Government (PMO-RALG) will work closely with Local Government Authorities (LGAs) through their various departments in collaboration with lined sectoral ministries to implement the NAP interventions at local level.

The Civil Society Organisations are encouraged to cooperate with the Government in implementing the guidelines through various projects or programmes. The private sectors either individually or in collaboration with the Government in public-private partnership (PPP) arrangement are encouraged to implement innovative projects or programme to NAP mainstreaming.

The Development Partners (DPs) either bilaterally or through their multilateral arrangements are invited to support the Government to operationalize these guidelines by building capacity in term of technical and financial support.

The overall responsibility for monitoring, evaluating and reporting of the guidelines is under VPO. The progress towards operationalizing of the guidelines will be tracked and reported periodically. The MDAs and LGAs are responsible for monitoring, evaluating and reporting to VPO on progress made in the integration of NAP in their respective policies, plans and programmes annually.

ANNEX

DEFINITION OF TERMINOLOGIES AND CONCEPTS

Land Degradation	This refers to a process in which the value of the biophysical environment is affected by a combination of human-induced processes acting upon the land or is the deterioration in the quality of land, its topsoil, vegetation, and/or water resources, caused usually by excessive or inappropriate exploitation.
Desertification	This is the process by which fertile land becomes desert, typically as a result of drought, deforestation, or inappropriate agriculture or is the process of land degradation in arid, semi-arid and dry sub-humid areas resulting from various factors, including climatic variations and human activities.
Drought	This refers to the naturally occurring phenomenon that exists when precipitation has been significantly below normal recorded levels, causing serious hydrological imbalances that adversely affect land resource production systems or is an extended period when a region receives a deficiency in its water supply, whether atmospheric, surface or ground water. A drought can last for months or years, or may be declared after as few as 15 days. Generally, this occurs when a region receives consistently below average precipitation. It can have a substantial impact on the ecosystem and agriculture of the affected region. Although droughts can persist for several years, even a short, intense drought can cause significant damage and harm to the local economy. Prolonged droughts have caused mass migrations and humanitarian crises.
Combating Desertification	This includes activities which are part of the integrated development of land in arid, semi-arid and dry sub-humid areas for sustainable development and are aimed at: (i) prevention and/or reduction of land degradation, (ii) rehabilitation of partly degraded land and (iii) reclamation of desertified land.
Sustainable Land Management (SLM)	It is defined as “the adoption of land use systems that, through appropriate management practices, enable land users to maximize the economic and social benefits from the land while maintaining or enhancing the ecological support functions of the land resources”
Best practices for SLM	These are those SLM practices that should increase production and be profitable, be cost efficient with short payback (economic viability), easy to learn, accepted, effectively adopted and taken up (socially and culturally accepted), environmentally friendly (contributing to the improvement of soils, water, and flora and fauna (biodiversity) and represent all stakeholders including socially marginalized groups.

Climate Change	This refers to a change of climate, which is attributed directly or indirectly to human activities that alter the composition of the global atmosphere, and which is additional to natural variability, and observed over comparable periods of time.
Climate	Climate encompasses the statistics of meteorological conditions, that is, temperature, humidity, atmospheric pressure, wind, rainfall, atmospheric particle count and other meteorological elements in a given region over long periods of time (usually 30 years).
Ecosystem Services:	Are the benefits provided by ecosystems that contribute to making human life both possible and worth living. The important benefits for human beings that arise from healthily functioning ecosystems, notably production of oxygen, soil genesis, and water detoxification.
Livelihood	This refers to the means for securing the necessities of life so that individuals, households and communities can sustain a living over time, using a combination of social, economic, cultural and environmental resources.
Resilience	This refers to the ability of a system to adapt to climate change, whether by taking advantage of the opportunities, or by dealing with their consequences.
Sustainable development (Sustainability)	This refers to development which meets the needs of current generations, without compromising the ability of the future generations to meet theirs.
Soil Erosion	Soil erosion occurs when soil is removed through the action of wind and water at a greater rate than it is formed. Soil erosion is caused by: - overstocking and overgrazing; inappropriate farming techniques such as deep ploughing land two or three times a year to produce annual crops; lack of crop rotation; and planting crops down the contour instead of along it.
Salinisation	This is the accumulation of soluble salts of sodium, magnesium and calcium in soil to the extent that soil fertility is severely reduced.
Salinity	This is the degree to which water contains dissolved salts.
Soil Pollution	It is defined as the presence of materials in the soil which are harmful to the living beings when they cross their threshold concentration levels. In this case the factors or substances which affect the soil are not static. It can be positive or negative. In the negative soil pollution there occur an overuse of soil and erosion. The erosion occurs by water and air. The water erosion occurs by the high speed rivers which remove the top layer of soil.

Soil Acidification	This refers to the buildup of hydrogen cations, also called protons, reducing the soil pH. This happens when a proton donor gets added to the soil. The donor can be an acid, such as nitric acid and sulfuric acid (these acids are common components of acid rain). It can also be a compound such as Aluminum Sulphate, which reacts in the soil to release protons. Acidification occurs when base cations such as calcium, magnesium, potassium and sodium are leached from the soil.
Siltation	This refers to the pollution of water by fine particulate terrestrial clastic material, with a particle size dominated by silt or clay. It refers both to the increased concentration of suspended sediments, and to the increased accumulation (temporary or permanent) of fine sediments on bottoms where they are undesirable. Siltation is most often caused by soil erosion.
Sustainable land management	This refers to a knowledge-based procedure that aims at integrating the management of land, water, biodiversity, and other environmental resources to meet human needs while sustaining ecosystem services and livelihoods.
UNCCD	This is the sole legally binding international agreement linking environment and development to sustainable land management. The Convention addresses specifically the arid, semi-arid and dry sub-humid areas, known as the drylands, where some of the most vulnerable ecosystems and peoples can be found.
Vulnerability	This refers to the degree of susceptibility to the negative effects of climate change. It is a function of the type, magnitude and frequency of climate events to which a system is exposed to (exposure) as well as sensitivity and capacity for adaptation (adaptive capacity).