UNITED REPUBLIC OF TANZANIA

MINISTRY OF NATURAL RESOURCES AND TOURISM

THE NATIONAL FOREST POLICY

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CONTENTS

ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
ALAT	Association of Local Authorities of Tanzania
CBD	Convention on Biological Diversity
CBF	Community Based Forestry
CBFM	Community Based Forest Management
CDM	Clean Development Mechanism
CFWT	College of Forestry Wildlife and Tourism
CITES	Convention on International Trade in Endangered Species of Fauna and Flora
CBOs	Community Based Organisations
D by D	Decentralisation by Devolution
EAC	East African Community
EAMCEF	Eastern Arc Mountains Conservation Endowment Fund
EMA	Environmental Management Act
FAO	Food and Agriculture Organization of the United Nations
FBD	Forestry and Beekeeping Division
FTI	Forestry Training Institute
FITI	Forest Industries Training Institute
GDP	Gross Domestic Product
HIV	Human Immunodeficiency Virus
JFM	Joint Forest Management
LGRP	Local Government Reform Programme
LPG	Liquefied Petroleum Gas
MNRT	Ministry of Natural Resources and Tourism
NAFORMA	National Forest Resource Management and Assessment
NFP	National Forest Programme
NGO	Non-Governmental Organization
NSGRP	National Strategy for Growth and Reduction of Poverty
NWFPs	Non Wood Forest Products
PES	Payment for Environmental Services
PFM	Participatory Forest Management
PSRP	Public Sector Reform Programme
REDD+	Reducing Emissions from Deforestation and Forest Degradation
SADC	Southern Africa Development Community
SFM	Sustainable Forest Management
SUA	Sokoine University of Agriculture
TAFORI	Tanzania Forestry Research Institute
TFS	Tanzania Forest Services Agency
TOF	Trees Outside Forests
TTSA	Tanzania Tree Seed Agency
UNCCD	United Nations Convention on Combating Desertification
UNFCCC	United Nations Framework Convention on Climate Change

GLOSSARY

Agroforestry is the inclusion of trees in farming systems and their management to enhance productivity, profitability, diversity and ecosystem sustainability

Biodiversity Is the variability among living organisms and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems

Catchment forest reserve is a forest area specifically recognized as a water source and controlled under the Forest Act

Climate change is the build-up of greenhouse gases in the global atmosphere, leading to changes in temperature, wind and rainfall patterns.

Community-Based Forestry is a people-centred approach to forestry that recognizes local people as key forest stakeholders and promotes their involvement in decision-making.

Community-Based Forest Management is an approach that enables communities to own and manage forest resources.

Community forest reserve is any forest on village or general land leased to a group of persons and jointly managed by them. It may include Agroforestry systems, woodlots, natural forests or traditional sacred forests.

Concession is an agreement between the government and other actors entrusting the latter to manage a forest reserve, industrial plantation or part thereof mainly for timber production for a specified period.

Decentralisation is the process of cascading decision-making governance powers closer to the people.

Devolution is the statutory granting of powers from the central government of a state to government at sub national level, such as a region, district or local level.

Deforestation is any illegal process (such as shifting agriculture) that transforms forested areas to non-forested land

Desertification is the process of converting productive land to desert through removal of vegetation, usually caused by unsustainable land use or climate variability or both.

Ecosystem is a community of living organisms in conjunction with the nonliving components of their environment (things like air, water and mineral soil), interacting as a system.

Ecotourism is visiting ecosystems and appreciating the complex interactions and functions of the components.

Environmental services are the benefits that emanate from well-managed ecosystems such as clean air and that contribute to the quality of life.

Environmental degradation is the deterioration of the quality of air, water and the physical environment which lowers the quality of life.

Executive agency is a semi-autonomous agency within the ambit of government ministries for the purpose of providing services in selected areas.

Ex-situ conservation means "off-site conservation". It is the process of protecting endangered species of plants or animals by removing part of the population from a threatened habitat and placing it in a different location, which may be a wild area or within the care of humans.

Forest is an area of land covering at least 0.5 hectares, with a minimum tree crown cover of 10% and a minimum height of 3.0 meters at maturity.

Forest administration comprises Government of Tanzania forestry administration.

Forest authorities comprise Government of Tanzania forestry authorities

Forest certification is the process of vetting particular natural or planted forests to establish whether or not they are being managed according to an agreed set of standards.

Forest ecosystem is the entire assemblage of organisms (trees, shrubs, herbs, bacteria, fungi, and animals, including people) together with their environmental substrate (the surrounding air, soil, water, organic debris, and rocks), interacting inside a defined boundary.

Forest degradation is any process that reduces the density of flora or fauna in a forest, especially by removal of trees, resulting in decreased interactions between these components, and more generally to its functioning.

Forest land lease is a process and documentation enabling a part of forest land to be leased to a person or institution.

Forest landscape restoration is a planned process to regain ecological integrity, restore forest functions and enhance human wellbeing in deforested or degraded forest landscapes.

Forest product includes all wood and non-wood forest items harvestable from forests

Forest reserve is a forest area recognized and demarcated for production of timber and other forest products or for water catchment and biodiversity conservation, under the Forest Act.

Forest resources include all wood and non-wood capitals in a forest.

Game reserve is any wildlife-rich and biodiverse area set aside as per Wildlife Conservation Act, Cap 282

Governance relates to decisions and controls that define expectations, grant power and verify performance.

Growing stock is the sum total of all trees, by number or volume or biomass, existing within a particular area.

Industrial forest plantation is an area of land planted with trees for industrial use.

In situ conservation also known as on-site conservation is the process of protecting an endangered plant or animal species in its natural habitat.

Invasive species also known as “alien species”, are species whose introduction, establishment and spread into areas other than their natural habitats threaten the integrity of the ecosystems, habitats or other species and may cause social, economic or environmental harm.

Joint forest management is involvement of local communities or non-governmental organisations in the management and conservation of government owned forests and forest land with appropriate user rights as incentives.

Land degradation occurs when natural processes and/or human activities result in the reduction in species, or vegetation cover or productivity of land.

Landscape is a portion of land that is characterised by a particular configuration of topography, vegetation, land use, and settlement pattern that delimits some coherence of natural, historical, and cultural processes and activities.

Licence is an authorisation granted by the Director of Forestry or any duly authorised person in that behalf or by a local authority for undertaking a functional activity in a given forest area.

Livelihood is a means of support or subsistence.

Livestock includes cattle, sheep, goats, pigs, horses, donkeys, mules and all other domesticated animals and their young.

Local authority includes a district council, city council, municipal council, town council, and village council.

Local authority forest reserve is a forest area administered and managed by the local authority.

Local community is a group of interacting people with common culture, traditions and beliefs and sharing a common environment.

Macroeconomic framework is a branch of economics that deals with the performance, structure, and behaviour of a national or regional economy as a whole.

National forest reserve is a forest area administered and managed by the central government.

National park is an area representing outstanding natural, archaeological or cultural resources and/or critical water and/or soil resources and created by The National Parks Act, Cap 282.

Nature reserve is a forest reserve/area legally gazetted for conservation of genetic resources and for scientific studies.

Participatory Forest Management is a strategy which allows stakeholders to participate in forest management through community based forest management or joint forest management.

Production forest reserve is a forest managed for production of timber and other forest products.

Protection forest reserve is a forest whose prime function is the protection of the biodiversity and environment. They are common in mountainous areas where they stabilize slopes, prevent avalanches, and protect water quality, and also in coastal areas, where they stabilize sand dunes.

Stakeholder is any person or group of persons organized or unorganized, who share a common interest or stake in a particular issue or system

Sustainable forest management is the stewardship and use of forest and forest lands in a way, and at a rate that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfil, now and in the

future, relevant ecological, economic and social functions, at local, national, and global levels, and that does not cause damage to other ecosystems.

Taungya is a practice of growing and tending trees in a young forest plantation area together with food crops until canopy closure.

Tenure is holding of land or other property through arrangements such as leasehold, freehold, customary ownership, and other such forms of holding.

Traditional communities is used to refer to communities whose lifestyle and livelihood depend primarily on forest resources

Traditional forest is a forest reserve governed under customary law.

Tree is a woody perennial plant, typically having a single or multiple stems and growing to a considerable height and bearing lateral branches at some distance from the ground.

Village land forest reserve is a forest usually within a village land and owned and managed by the village government.

Watershed is an area or region drained by a river, river system, or other body of water.

Watershed management is a comprehensive process of implementing land use and water management practices to protect and improve the quality and volume of the water.

Wildlife refers to undomesticated animals and plants, and may include fungi, and other organisms that grow or live wild in an area without human beings.

Woodland is land whose vegetation structure is dominated by trees where canopy cover is usually between 10% and 30%. It is a forest type.

Wetlands are areas of marsh, fern, peat land or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six meters.

FOREWORD

Tanzania's forest and tree resources play significant roles in the economy and in nature conservation through their diverse products and services. The forest sector ensures sustainable wood and non-wood production that meets the needs of the country with surplus for export. Currently, the contribution of forests to the GDP through wood products is estimated as 3.5% and to Tanzania's total export trade about 11%.The contribution of forests in subsistence economy is over 20%. Our forests also provide about 85% of all the energy consumed in the country. Charcoal is one of the largest industries in Tanzania, employing tens of thousands of rural people and supplying dependable energy. Furthermore, the sector provides quality conservation of natural ecosystems to meet Tanzania's social, environmental, and cultural aspirations in addition to meeting the regional and global obligations. The ability of trees and forests to sequester carbon from the atmosphere is the key to current global strategies to mitigate and adapt to climate change.

Forests create conducive environments for livelihood through water catchment, soil conservation, thereby supporting agricultural productivity. Hydroelectricity also depends on water from catchment areas that are mostly located in forests. Our forests provide diverse wildlife habitats and unique natural ecosystems and biological diversity which attract tourism.

The National Forest Policy of 1998 was reviewed taking into account these considerations as well as changes in macro-economic policy frameworks and other sectoral policies that are related to forestry, particularly those on environment, energy, water, agriculture, lands and industry. This policy is an outcome of a consultative process that involved both sectoral and cross-sectoral stakeholders. The policy strikes the balance between forest conservation and business.

Forestry stakeholders in Tanzania, as elsewhere in the world, are rising and increasingly aware of the diverse needs at local, national, regional and global scales. Thus, our policy is designed to meet the needs of all forest-dependent communities, and meet conservation needs. While creating a favourable environment for investing in forests and trees. Further, the policy creates increased quantity and quality of forest products and encouraging industrial processing and trade.

The new policy is based on current forest statistics, up-to-date national development strategies, the Sustainable Development Goals and Tanzania's commitments to meet identified targets in various international agreements and protocols. It also incorporates findings and recommendations from key studies and ideas generated at many stakeholder consultation workshops. This policy lays down the key principles and directions, roles and responsibilities of all stakeholders. Collective implementation of this policy is essential and urged.

Hon Dr Hamisi Andrea Kigwangalla (MP)
MINISTER FOR NATURAL RESOURCES AND TOURISM

CHAPTER ONE

INTRODUCTION

1.1 Background

Tanzania's forest sector contributes significantly to livelihood and the national economy. Rural and urban dwellers rely heavily on forest resources for energy, construction materials, fodder, water, honey, edible fruits and nuts, medicines and a variety of ecosystem services. These products and services generate substantial employment opportunities. Tourism, agriculture and livestock production depend heavily on thriving forests and good management of biodiversity.

The per capita forest land ranges from 0.01ha in Dar es Salaam region to 4.07ha in Kigoma region. This means that there are parts of the country which enjoy a surplus of wood products and at affordable costs, while other parts rely on products transported over long distances and therefore expensive. However, the ecological conditions in the country are such that it is possible for all districts to develop forest resources to meet most of their needs. It is therefore possible for forest products and services to reach every consumer at affordable costs.

The first Forest Policy was formulated in 1953 by the colonial government and revised in 1963. The last National Forest Policy review was undertaken in 1998. It enabled the ministry responsible for forestry to develop the National Forest Programme in 2001 as the sectoral strategic planning instrument of the policy, and to enact the Forest Act No 14 of 2002 which became operational through the Forest Regulations Government Notice No 153 of 2004.

The policy also enabled the establishment of new institutions, namely the Eastern Arc Mountains Conservation Endowment Fund (EAMCEF) in 2001, Tanzania Tree Seed Agency (TTSA) in 2003, Tanzania Forest Services Agency (TFS) in 2010, and Tanzania Forest Fund (TaFF) in 2010. These institutions have contributed to the management of forest resources in terms of supervision of national forest reserves, revenue collection, supply of tree seeds and forest financing.

However, there are challenges regarding the state of forest management and control of forest resources. The country is experiencing unregulated exploitation and declining quality of the forest produce due to a number of reasons. These include low capacity of forest institutions, parallel and fragmented management whereby nationally conceived plans and programmes are inadequately coordinated and implemented at the district and local community levels. The rate of deforestation and forest degradation is rising. On the regional and international scenes there are recently agreed protocols and agreements regarding forest resources, biodiversity and climate change to which Tanzania is a party. All these call for a review of our National Forest Policy.

1.2 The Policy Review Process

The review process was initiated in 2006 culminating in a draft policy in 2016. Between 2009 and 2015 data on forest resources were generated by National Forest Resources Monitoring and Assessment (NAFORMA) project updating forest and tree resources information. This has been incorporated in the policy. To anchor on the changes in society and current development priorities, the sector decided in 2017 to refresh the policy by undertaking further stakeholder consultations.

Stakeholders in all the seven zones of Tanzania's forest sector (that is Central, Northern, Eastern, Lake, Western, Southern and Southern Highlands) were consulted. They represented various groups including farmers, traditional communities, pastoralists, Non-governmental organisations (NGOs), Community based organisations (CBOs), Private business persons and companies, industrialists, village leaders, local governments, district leadership, regional leadership and Tanzania Forest Services Agency (TFS), Association of Local Authorities of Tanzania (ALAT), representatives of academic and research institutions, the Tanzania Association of Foresters and Tanzania's development partners. Additional consultations were done with all link sectors, including the ministries responsible for Finance, Local Government, Agriculture, Livestock, Environment, Lands, Housing and Human Settlements; Energy, Minerals; Industry, Trade, Water and Irrigation. Relevant policy-related suggestions and recommendations have been incorporated into the revised policy, which includes implementation strategies for each policy statement made.

Additionally, findings from a wide range of studies on key areas inter alia wood fuel, forest land tenure, Participatory Forest Management (PFM), and the roles of forests in food security and nutrition and private tree growing have been incorporated into the revised policy. A nationwide validation workshop was convened to ensure that all comments and suggestions made by stakeholders were taken into consideration.

1.3 Policy Coverage and Interpretation

The National Forest Policy covers all forests and trees outside forests (TOF) in Mainland Tanzania, irrespective of ownership or management responsibility. All initiatives in the forest sector development and forest-related sectors must adhere to the National Forest Policy.

CHAPTER TWO

SITUATION ANALYSIS

2.1 Institutional and Regulatory Framework

The Forest and Beekeeping Division (FBD) within the Ministry of Natural Resources and Tourism (MNRT) leads all aspects of forest policy, strategy, regulatory frameworks and forest administration in Mainland Tanzania. Coordination of cross-sectoral aspects is the responsibility of MNRT. The Tanzania Forest Services Agency (TFS) has mandate to provide professional forest management services for Central Government forests, while Local Government Authorities (LGAs) have mandates to manage their forests and approve bylaws on village forest reserves. The Tanzania Forest Research Institute (TAFORI) is mandated to provide research leadership.

Higher Learning Institutions particularly the College of Forestry, Wildlife and Tourism of Sokoine University of Agriculture (CFWT-SUA) provide professional education and research. Training at technical and vocational levels is provided by the Forest Training Institute (FTI) and Forest Industries Training Institute (FITI). Tanzania Tree Seed Agency (TTSA) is mandated to provide high quality tree seed, seedlings and other propagation materials for various end uses. The Tanzania Forest Fund (TaFF) provides financial support for sustainable forest management.

There are many non-state actors such as NGOs, CBOs and the private sector that play very important roles in support of forest development and management and related activities in collaboration with Government. Tanzania's development partners and international organizations play a significant role in supporting forest development.

Despite the Ministerial efforts to achieve coordination across sectors on issues related to forestry and the strengthening of institutional set up, the following challenges remain:

a) Inadequate synergy and coordination of policy implementation across related sectors especially in the areas of energy, water, agriculture, environment, land use and livestock;

b) Fragmented institutional chain of command in managing forest resources. For instance:

   (i) There has been duplication and conflict of roles between the Ministry responsible for forestry and Local Government Authorities in forest management.

   (ii) Forest related issues and priorities are not prioritized at local government levels.

2.2 Forest Management

2.2.1 Resource Assessment

Forest resource assessments are usually carried out at national and forest levels. The former is used to provide data for general forest resource planning and the latter provides data for specific management planning needs of each forest. Since formulation of the 1998 Forest Policy, only one assessment at the national level was undertaken by NAFORMA project (2009 - 2014). The NAFORMA report shows that forest resources cover about 48.1 million hectares (ha) equivalent to 55% of total land surface area of Tanzania Mainland. The main types of forests are Montane, Lowland, Mangroves, Plantations and Miombo woodlands. The distribution of the total forested area in terms of forest type is shown in Table 1:

Table 1. Distribution of forested area by type

Forest Type	**Area (ha) * 1000**	**Percent of total forestland (%)**
Montane forests	995.3	2.1
Lowland forests	1,656.5	3.4
Mangrove forests	158.1	0.3
Forest Plantations	554.5	1.2
Closed woodlands (with > 40% canopy cover)	8,729.0	18.2
Open woodlands (with 10 -40% canopy)	35,997.3	74.8
Total (ha) * 1000	**48,090.7**	**100**

Source: NAFORMA Report, 2015

Tanzania's forests are divided into two main use categories, namely protection and production forests. Protection forests are those located on fragile landscapes, water catchment areas or biodiversity hotspots and they are conserved. They cover 28.09 million hectares (58.4% of all forests). Harvesting activities are not allowed in protection forests. Production forests are natural forests or plantations that are managed for the supply of wood to meet the diverse needs of the nation and for export. They cover 20 million hectares that is 41.6% of all forests (NAFORMA Report, 2015).

The growing stock is estimated as 3.3 billion m^3, of which closed forests account for 11.3 % while woodlands account for 73.9% of the growing stock. The remaining 14.8% comes from trees outside forests (TOF). The total annual supply of wood at national level is estimated at 83.7 million m^3. For sustainable utilization, Tanzania may harvest up to 42.8 million m^3 of wood per year, which is the allowable cut. However, the wood volume cut in 2010 was 62.3 million m^3 that is 19.5 million m^3 above the allowable cut. While the above data are very useful at the level of national planning, they are not sufficiently detailed to be used for forest management planning at local levels or for individual forests.

A key gap is the absence of policy directives to undertake forest inventories regularly at national and forest levels to support planning and projections for informed decision making. For long term monitoring of forest resources, Permanent Sample Plots have been established by NAFORMA for intensive monitoring purposes.

2.2.2 Forest Tenure arrangements

The existing forest tenure arrangements are under central, local and village governments, private and unreserved forests. The highest percentage of forestland is owned and managed by village governments (Table 2). Tenure holders are responsible for all aspects of management, including production, conservation and protection.

Table 2. Distribution of forested area by ownership

Tenure Holders	Area (Ha) * 1000	Percentage (%)
Central government	16,610.6	34.5
Local governments	3,107.4	6.5
Village governments	21,975.1	45.7
Private	3,515.9	7.3
General land (unreserved forests)	2,733.8	5.7
Not known land	98.7	0.2
No data (ownership not recorded)	49.2	0.1
TOTAL	**48,090.7**	**100**

Source: NAFORMA Report, 2015

Currently there are about 2.3 million ha (10.2% of the forest reserves on village lands) which are under effective management. The remaining 19.67 million ha (89.5%) of forests in village lands is unreserved (open access forest areas) and is subjected to unsustainable practices such as agricultural expansion, wild fires, livestock grazing and illegal harvesting. This is a reflection of weak capacity of village governments to effectively manage the forests. In the majority of cases, formalization of forest land tenures, especially for villages and private owners is incomplete.

2.2.3 Forest Certification

Forest certification is a globally recognized standard for assessing the quality of forest management. The system applies minimum standards and mechanisms for verification and certification as compliant to sustainable forest management. The system is currently not properly applied in Tanzania for various reasons, among them lack of enforcement. Further, there are no clear policy directions or management processes that ensure the recognition of the rights and traditions of traditional communities in forest management. Currently there is no mechanism for

certifying forests that are well managed. This places Tanzania unfavourably in international trade in certified products.

2.2.4 Participatory Forest Management

The Government introduced Participatory Forest Management (PFM) that is being promoted all over the country to improve management of forest resources. There are two approaches to PFM. These are Joint Forest Management (JFM) and Community Based Forest Management (CBFM). JFM takes place on reserved land owned and managed by either the government (central or local) or private sector. In this approach, forest adjacent communities enter into joint management agreements to share responsibilities, costs and benefits with the owner. It is estimated that about 5.4 million ha of forests (mostly montane and mangrove forests) are under JFM arrangements. CBFM covers about 2.3 million ha mainly on forests in village lands. In this arrangement the local communities have full mandates to own and manage forests.

A study conducted by FAO in 2017 confirmed that there is substantial evidence that PFM enhances sustainable forest management and has been effective in enhancing natural, social and financial capitals. Local communities involved in PFM have good access and can harvest products. However, there are shortcomings regarding a) expertise to make and implement proper management plans b) weak forest extension services and c) heavy dependency on donor funds to manage the forest activities.

2.2.5 Forest Valuation

The combined annual value of forest goods and services is estimated at US$2.2 billion, which is equivalent to 20.1% of GDP based on 2006 prices. The sector's contribution to the economy is increasing due to rising demand for forest goods and services and macroeconomic changes. The sector is estimated to provide about three million person-years of employment. However, the growth in demand is not properly monitored in order to enable better future development of forest resources.

The contribution of the forest sector to the national economy is underestimated because consumption of wood fuels, bee products, catchment and environmental values, support to pollination of agricultural crops and other forest benefits are not well captured in the national accounts. This is due to the failure to undertake forest valuation.

2.2.6 Tree seed and propagation materials

The quality of wood depends on species and, seed quality and processing technologies. The 2017 supply was 18.3 tonnes while the demand was 40 tonnes. The availability of seed of indigenous species is especially scarce and the quality is

inadequate.TTSA aims at increasing efficiency and enhancing supply of indigenous and exotic seeds for tree growing in the country. TTSA has mandates to develop, procure and market high quality tree seed and other propagation materials. Other seed suppliers have emerged and are complementing TTSA efforts in tree breeding, species trials and development of tree seed orchards.

The NAFORMA surveys carried out in 2009-14 show that the regeneration of natural forests is quite good – up to 3000 tree seedlings/wildings per hectare. Better use of this potential in regenerating the landscapes is already being emphasised. However, there is little in the form of tree improvement through biotechnology (particularly vegetative propagation and tissue culture), which could boost productivity. In areas with wood deficit little is being done to find fast growing substitutes such as bamboo. In areas with wood deficit little is being done to find fast growing substitutes such as bamboo. To meet the rising demand for wood, investigations are being carried out on growing of bamboo which matures in 5-7 years. Bamboo has many benefits including rapid biomass accumulation, carbon sequestration, absorption of heavy metals and suitability for rapid regeneration of degraded landscapes. It has versatile uses in construction and artisanal products.

2.3 Forest Products and Industries

2.3.1 Wood fuel

For sustainable utilization, Tanzania may harvest up to 42.8 million m^3 of wood per year. This is the allowable cut. However, the wood volume cut in 2010 was 62.3 million m^3 that is 19.5 million m^3 above the allowable cut. Out of the total demand two third goes to wood fuel and the remainder goes to other wood products.

By volume, firewood and charcoal are the two most used wood fuel types in Tanzania. Firewood is dominant in rural households (92.0%) compared to urban households (28.4 %). Regarding charcoal, the use of inefficient production methods and tools and inefficient burning devices exacerbates wastage of wood. An energy study in 2016 indicates that only 16.9 % of the rural households in Tanzania Mainland were connected to electricity of any form compared to 65.3 % of their counterparts in urban areas.

The use of modern sources of energy (electricity, biogas, industrial gas and solar) by households for cooking accounts for only 1%. Due to the high prices of electricity most households are unable to use it for cooking. Although gas could be an immediate alternative cooking energy, its adoption especially in peri urban and rural areas is hampered by high initial costs of cylinders, associated LPG accessories, cooking stoves and inadequate distribution network. These challenges are pushing more people to continue using wood energy, hence putting more pressure on the forest resources. All indications show that at current rates of adoption, and even with special programmes to make modern forms of energy available countrywide,

charcoal and firewood will remain as the dominant sources of energy for the next 15 - 20 years. Despite the growing demand, sources of wood for charcoal are rapidly dwindling, while production and burning technologies are inefficient. Moreover, the charcoal industry remains largely informal and illegal, yet production and consumption keep rising.

2.3.2 Timber Products and Marketing

In the past Tanzania produced wood products such as sawn timber, wood-based panels, wood chips, pulp, paper products, poles and railway sleepers. Currently only sawn wood, pulp and poles are being produced in sufficient quantity. The other products are being produced in small quantities due to decreasing raw material supply and reduced availability of large-sized logs. Therefore the deficit is being met through importation. However, Tanzania has the potential to produce enough raw material for these products.

A study by FBD (2011) on timber market dynamics in Tanzania shows that the market for forest products is growing rapidly because of some strong economic drivers, particularly in construction where forests provide over 75% of all construction materials. Much of the marketing of wood products is done by the private sector. Due to weak quality controls the market is poorly segmented.

Export trade is weak due to the poor quality of wood products arising from faulty processing equipment and weak quality supervision. Between 2002 and 2007 some 70,000 cubic meters of Roundwood were exported (FAO 2010) but this was halted as it was illegal. Global demand for wood products exceeds the supply especially as manifested by the fast growing economies of Southeast and East Asia, so there is market especially for hardwoods.

2.3.3 Non-Wood Forest Products

Non-wood forest products (NWFP) include leafy vegetables, honey, gums and resins, tannin, mushrooms, spices, fruits, foliage, roots and bark, used in traditional medicines. These products are plentiful in indigenous forests and are widely harvested and used by local communities for food, medicine, frankincense, perfumes, myrrh and essential oils. These products have high demand in internal and external markets. However these opportunities are not exploited due to limited capacity to produce, process and package them appropriately. Many of these products are unique and potentially they could be patented, but this is currently not being done.

2.3.4 Food security and nutrition

Forests are major reserves of species of plants and animals that have potential to serve as future foods. All the currently cultivated crops and livestock originated in forests and were domesticated through cultivation. The roles of forests and trees in soil and water conservation are crucial in crop and livestock productivity. At its 44th Session (2017) the Committee on World Food Security (CFS) formally accepted that forests make a difference in Food Security and Nutrition. Therefore, forests and trees must also be at the core of integrated policies and action on food security and nutrition across the agricultural sectors. Thus managing forests well is in itself crucial for food and nutritional security.

A study by FAO in 2017 on Forest-based Food Security and Nutrition revealed that while agricultural policy recognizes the role of forests, in food production (water, pollination, soils/nutrients etc.) the sector's coordination of its activities with forestry is weak especially at the local level. While agroforestry is recognized as a means to enhance food security and nutrition its practice on the ground is weak due to inadequate expertise at the extension level.

2.3.5 Wood Based Industries

There are about 600 primary forest industries, mainly sawmilling and small-scale paper and board production, matches manufacturing, pole production, chipboard, fibreboard and block board manufacturing and tannin extraction. Other forest-based industries are logging industry, sawmills, pulp & paper mills, particleboard mills, plywood mills, hardboard mills and impregnation plants. Secondary wood Industries include furniture manufacturers, carpentry, joinery and wood carving.

The majority of the industries are using obsolete, inefficient and inappropriate technologies resulting in high wastage of wood and very low recovery rates (less than 30%). There are innovation gaps in terms of development and use of appropriate wood technologies as whole. Further, the industry is not taking full advantage of trained technicians.

Wood industries are also facing inadequate supply of raw materials, weak investment, inadequate financing and weak human capacity. Unreliable electricity supply, inadequate experience in market development, weak managerial acuity and low business culture are challenges in the industry. Most industries are not involved in any tree growing activities, so they rely on mostly government supply of raw materials.

2.3.6 Non-Wood industries

Industries engaged in processing or value addition of NWFPs such as fruits, nuts, medicinal plants, gums, resins, barks, natural dyes, aromatics and fibres are very

few. They can be the major source of forest-based employment of the rural and urban people. However, they are facing the same challenge of inefficient technologies for value addition. Potential for growth of these industries is also constrained by decline of natural forest cover, inadequate information on location and types of products and the lack of knowledge to raise the products on farm.

2.3.7 Artisanal Woodworks and Crafts

Development of the artisanal wood-based industry that employs over 100,000 people is hampered by lack of efficient production technologies for high quality products. The existing technologies are wasteful and unsuitable. Woodcarving skills are also slowly declining due to low economic benefits and lack of prestige/attractiveness to wood art. The availability of the famous species such as Mpingo (*Dalbergia melanoxylon*) and *Diospyros Mespiliformis* are also rapidly declining.

2.4 Ecosystem Conservation and Services

2.4.1 Ecosystem Types and Services

Tanzania's forest ecosystems include lowland rainforests in the Northwest, montane forests, extensive areas of Miombo woodlands in the South and Acacia savannah woodlands in the North. There are also lowland dry coastal forests and mangroves along the coast. The mangrove forests are threatened through conversion to farmlands and extensive harvesting of trees for timber.

About one third of the country's area is conserved as protected area in the form of forest reserves, nature reserves, marine parks, national parks, game reserves and game controlled areas. There are about 1.4 million hectares of gazetted catchment forests and nature reserves. These ecosystems have enormous biological, economic, scientific, recreational values.

The forestry sector is supplying a wide variety of ecosystem products and services especially clean water for human consumption, irrigation, industrial uses and electricity generation; healthy habitats for wildlife (supporting tourism), pollinators for crops, soil conservation, carbon sequestration for mitigation of climate change and rich environments that serve as biodiversity reserves of flora and fauna. NAFORMA (2015) estimated forest Carbon pools as Above-Ground Biomass (AGB) and Below Grounds Biomass (BGB) totalling 1,060.8 million tonnes and dead wood about 63 million tonnes. The major AGB and BGB sink is in the woodlands which store 73.5% of the total Carbon. Soil organic carbon is currently being studied.

Agriculture, industry and domestic users of water depend on these and other protected forests for their water supply. In 2017, electricity generated from water was 567.7 Megawatts which is 40.54% of the total of 1,400.34 Megawatts (grid and off grid) generated in the country. Other hydroelectric facilities currently being developed will use water from upstream forests, so the contribution of forests to

energy is rising. The demand for water to meet human consumption especially in the rapidly growing cities, industrial processing needs and irrigation is also rising sharply. The pressure to expand and maintain catchment forests is therefore on the rise. Currently there are no mechanisms to ensure that users of water contribute to the costs of conserving these forests. Further, collaboration among the related sectors is weak, resulting in destruction or degradation of some catchment forests.

In addition, Tanzania's mountainous landscape (especially in the north, east, south and lake regions) has many hills the majority of which are bare-topped, and hillsides and valleys are exposed to erosion due to farming activities. The consequences are reduced water in terms of volume and quality and soil erosion leading to low productivity and environmental destruction.

2.4.2 Biodiversity Conservation

Tanzania has many unique forest types where endemism is abundant such as the Acacia-Commiphora woodlands, the forests in the ancient mountains of the Eastern Arc, along the Albertine Rift close to Lake Tanganyika in the west, and on the younger volcanic mountains in the north and central parts of the country.

Tanzania is party to the Convention on Biological Diversity (CBD). With about 14,000 known plant and animal species, Tanzania is among top 12 countries with high biodiversity and among 15 countries with the highest number of endemic species. In the Eastern Arch montains, researchers have identified 96 endemic species of vertebrates, 43 species of butterflies, sunbirds, chameleons and the big-eyed primates known as bush babies. These are rare species within a relatively small area, which emphasizes the uniqueness of these forests. Only a few places on earth have comparable densities of endangered endemic species.Globally there are 25 recognized biodiversity hotspots of which the Eastern Arc Mountain Forests and the Coastal forests of Tanzania are included. Further, the Great Lake for Cichlid fishes, the Marine coral reef ecosystems; the ecosystem of alkaline Rift valley Lakes; and the grassland savanna for large mammals are recognized for their uniqueness. Tanzania accounts for more than one-third of total plant species in Africa. All these attract the attention of the international community. Loss of biodiversity is therefore an issue of profound concern and requiring utmost attention.

The Government has made efforts to ensure high level of conservation and management of some protection forests. To-date, there are 12 forest nature reserves with a total area of 305,000 ha. Eight of them are in the Eastern Arc Mountains. The country's ecosystems are threatened by mining, spread of invasive species (such as *Prosopis juliflora* and *Acacia mearnsii (*black wattle)), illegal harvesting of protected species, slash and burn agriculture (especially in the woodlands), uncontrolled charcoal production and livestock grazing. Inadequate public understanding of the tangible and intangible values of forest ecosystem products and services is a threat to biodiversity conservation. The importance of biodiversity lies in its capacity to

sustain a large variety of life forms and its potential as a source of future food, fibre and medicine. The country has over 10,000 plant species, hundreds of which are nationally endemic. Of these, 305 species are identified as threatened in the IUCN Red List, and 276 species are classified as Endangered (IUCN 2013).

Natural forests cover about 47.4 million ha (98.5%) while plantations cover about 600,000ha (1.5%). For natural forests, the accepted management practices for production purposes (as opposed to protection purposes) include periodic harvesting of mature timber trees and assisting the regeneration of the remaining forest. Selected mature trees of important timber species are usually retained to provide seeds for regenerating the forest. Most natural forests are located in rural settings and are surrounded by farmlands.

Farmers know that forest soils are fertile, therefore along the forest boundaries it is common for farmers to encroach on forest land, especially where forest boundaries clearly marked and patrolled. Farmers clear large areas of forest, usually applying a slash and burn approach. Burning the forest produces ash that is rich with potassium which is key to crop performance. The burning destroys young regeneration and quite often it destroys much more forest area than is needed by the farmer. This is the prime cause of deforestation.

A study supported by the World Bank in 2014/15 revealed that farmland is expanding in area at the rate of 2.4 % per year. The total area under shifting cultivation is 66,000 Km^2 and the estimated total loss of wood to this practice is 14.9 million cubic meters of wood annually. This is close to a third of the annual allowable cut. Failure to maintain soil fertility on farms is responsible for the slash and burn practice. Continuation of these practices will diminish our ability to mitigate climate change.

2.4.3 Wetland Resources

Tanzania's wetland resources, which make up about 10% of the land area, include the great lake system, inland drainage systems, major river networks and mangrove areas. Wetlands are also found in terrestial forest ecosystems. Wetlands have significant economic, social, cultural and biological values for humans, wildlife and livestock. They play important roles in decreasing flooding, removing pollutants from water, recharging groundwater, protecting shorelines, providing habitat for wildlife and serving important recreational and cultural functions.

Wetlands management is a crosscutting issue among sectors such as environment, agriculture, fishery, energy, forestry, livestock, lands, wildlife, industry and mining. Despite being multifunctional in nature their management is neither integrated nor coordinated among relevant sectors. In spite of their importance, wetlands other than the big lakes are generally treated as wastelands, severely encroached, over-abstracted and undervalued.

2.4.4 Wildlife

The present network of wildlife Protected Areas (PAs) in Tanzania comprises 16 National Parks, 28 Game Reserves, 42 Game Controlled Areas and the Ngorongoro Conservation Area. The importance of these wildlife resources lies in their biological value in terms of the species and habitat found, their economic importance and the potential to contribute to sustainable development of the country. The quality of these Protected Areas depends on the integrity of surrounding forest ecosystems.

Overlapping of forest reserves with wildlife protected areas has resulted in conflicting management activities. On other hand the wildlife sector is facing similar constraints as the forest sector, such as loss of habitats to settlements, grazing and mining; poaching; illegal logging and inadequate financial and human resources to manage wildlife protected areas. Coordination between the institutions responsible for management of wildlife and forest resources is inadequate.

2.4.5 Ecotourism

The 12 existing Nature Forest Reserves (NFRs) are good examples for development of forest based eco-tourism activities as well as related marketing services. Ecotourism provides jobs to local populations and socio-economic benefits. These benefits therefore provide opportunities for local communities to participate in the management of nature reserves. The ecotourism industry in Tanzania is faced with challenges such as lack of national framework for this type of tourism, inadequate infrastructures like roads and accommodation in rural areas, undeveloped marketing services and lack of awareness. In addition, suitable ecotourism potential areas and the products are not yet to be properly studied and developed.

2.4.6 Forestry and Climate Change

Tanzania has witnessed high deforestation and forest degradation rates which are taking place in both reserved and unreserved forests. In 2010 the annual rate of deforestation was estimated as 372,816 ha. Estimates by Tanzania's National Carbon Monitoring Centre (NCMC) in 2018 show that the annual rate of forest loss is currently at 469,420 ha. The main causes of deforestation are rising demand due to increasing population, poverty, forest clearing for agriculture, wild fires, policy and market failures and persistent reliance on wood fuel for energy, over-exploitation of wood resources and unsustainable land use practices.

Among the well-known effects of climate change on forest resources include overall reduction of growth rates, possible loss of some species, migration of some species to higher altitudes and changes in the reproductive biology (phenology). In times of drought fires may be more intensive, causing losses of forests while in floods huge erosion and loss of trees is likely. Globally it is estimated that deforestation and forest degradation contributes 18-20% of the total greenhouse gas emissions.

Tanzania's National Carbon Monitoring Centre (NCMC) estimates that our forests store 1,123.8 million tonnes of carbon in the form of solid wood.

To ensure effective participation of Tanzania in climate change issues, the country has ratified international climate change commitments under UNFCCC and UNCCD. In 2009 the National REDD framework was developed, followed by the National Climate Change Strategy in 2012 and the National REDD+ Strategy in 2013. The Government is engaged in developing the capacity, knowledge and mechanisms to implement the REDD+ commitments expressed in the strategy.

A study of the impact of climate change on forest ecosystems in Tanzania revealed that subtropical thorn woodland (Itigi thicket forest ecosystem: 456,101ha only) currently in existence only in Tanzania and Zambia may completely disappear, and that subtropical dry forest and subtropical moist forest will decline by 61.4% and 64.3% respectively. The results will be an increase in tropical very dry forest, tropical dry forest and tropical moist forest and replacing the current life zones. This means that Tanzania's forests will be changing and getting drier. All these will definitely impact on the forest management processes and more importantly on the available products and services.

2.4.7 Forest Protection

The four key aspects of forest protection include prevention and management of invasive species, forest fires, pests and diseases. With regard to invasive species the available data are limited and currently there are no actions to prevent local or foreign invasive species.

Forest fires are caused by careless charcoal production, honey harvesting using the traditional methods of smoking out bees and bush meat hunting using fires. Fires may also be caused by natural means such as lightning. Currently the capacity to prevent, detect and suppress fires is quite low. The national capacity is limited, while at the district and local levels there are no concrete arrangements to engage the public in fire management. There are no clear chains of command to ensure effective mobilization of human, financial and technical resources to control forest fires. Preventive measures such as the placement and management of firebreaks are poorly implemented in most forests. Frequent forest fires smother the regeneration of most forest tree species and can degrade forests and woodlands to shrub lands and eventually grassland ecosystems with losses of biodiversity.

In the past, Tanzania and other East African countries suffered major losses from an attack on cypress (*Cupressus lusitanica*) by an aphid ( ) which resulted in terminating the growing of this species for timber in some areas. Currently, active prevention of pests and diseases in the country is at a low scale due to lack of human capacity, facilities and financial resources.

2.5 Forest Investment and Financing

2.5.1 Categories of investment

Investment in forestry is divided into four components: Investing in forest plantations for industrial purposes; in natural forests for effective production and protection benefits; in forest industries and in ecosystem management to create novel products for tourism. Investing in human and institutional capacity is discussed elsewhere in this document.

The private sector is an important player in the whole value chain from the production and distribution of tree seeds to growing trees and forests, harvesting, processing marketing and trade in forest products; both wood and non-wood. The private sector comprises hundreds of thousands of individual operators and artisans, small and medium enterprises and large-scale companies managing forest industries. There are 621 sawmills, 9 pole treatment plants, 9 wood-based panel factories and one pulp and paper mill. There is one Sandal wood oil and scent factory and one factory processing black wattle for tannin production. The country's new thrust for industrialization will attract more investors and create employment.

Tree growing by individuals, groups and institutions (public and private) is encouraged and is slowly building up. Under the sector's Private Forest Programme (PFP) tree grower associations have been formed and are already active in raising tree resources especially in the Southern Highlands. Alongside tree growing the farmers are also formulating mechanisms for collective bargaining in the sale of logs and considering forming groups to invest in wood processing. Private tree growing is potentially a nucleus for a very effective bottom-up approach to industrialization. With regard to forest industries investment has stagnated due to the shortage of raw materials, so more tree growing is likely to change that situation.

The challenges in these areas include the lack of incentives for tree farmers to overcome financial difficulties arising from the long gestation periods associated with tree and forest investments; lack of suitable financing mechanisms for small- and medium-scale private forestry and forest industry development; and the fact that current tree growing programmes are mainly concentrated in few districts in the country. Further, currently there are very few investors in the development of natural forests. Although there are unique opportunities to invest in ecosystem conservation and ecotourism this area is yet to be properly developed.

2.5.2 Forest financing

The main sources of funds for the forestry sector include annual central government subventions, project-based funds from development partners, NGO funds and private investments. The main source of revenue for the sector is forest royalties. Revenue collection has been strengthened by TFS, but there are opportunities to broaden the revenue base. In ensuring sustainable funding mechanism for the forest sector, the government has established the Tanzania Forest Fund (TaFF) to support sectoral activities. In 2001, the government established the Eastern Arc Mountains

Conservation Endowment Fund (EAMCEF) to support the conservation of the Eastern Arc Mountain forests, which are among the biodiversity hotspots in the country.

Currently there are initiatives on adopting payment for ecosystem services (PES). Ecosystem services include watershed protection, forest conservation, biodiversity conservation, carbon sequestration and landscape beauty in support of ecotourism. PES is a direct incentive to encourage ecosystem management in ways that ensure the continued provisioning of the services. It is a highly promising conservation approach that can benefit buyers, sellers and improve the resource base.

2.5.3 Urban and Peri-Urban forestry

Urban gardens and tree groves are sanctuaries where residents find peace as they congregate to enjoy the shade and serenity of the microclimate created. One of the most important benefits of trees in urban environments is related to health and peace of mind. City life includes industrial establishments which contribute to pollution in terms of greenhouse gas emissions and chemical pollutants such as ammonia, sulphur-dioxide, carbon dioxide and carbon monoxide.

Currently there are thousands of private nurseries that provide seedlings to private and corporate developers for planting in urban and peri-urban areas. However, the planting is small scale and disorganized, the trees are not properly managed and they often interfere with infrastructures such as power supply lines drainage systems and water supply systems. Further, there are few recreational parts or botanic gardens for use by town dwellers. As a result we are not benefiting adequately from capacity of trees to absorb polluting gases and also heavy metals such as lead, cadmium and zinc in water pools. Heavy metals are injurious to human health if ingested, especially from vegetables growing along polluted streams. Expertise in urban forest management is barely taught and there are no specialists in this area.

2.5.4 Research and Development

The government has continued to strengthen forest research through Tanzania Forest Research Institute (TAFORI). To guide and implement demand-driven research, TAFORI developed the National Forest Research Master Plan 2011 – 2020. The challenges facing research include inadequate capacity to implement planned research programmes and weak dissemination of research findings due to declining extension capacity. There is precious little research on indigenous trees. This is a weakness that impedes the development of indigenous species which are more resilient to climate change and other risks. The demand for appropriate species to meet the different social and ecological needs is a major area of need that is not being addressed.

A key weakness is the absence of a framework for predicting future funding levels for research, which is very essential for work involving trees, forests and society. Further, coordination among all institutions involved in forest research (including universities) is weak, leading to fragmentation approaches to research.

2.6 Human and institutional capacity

The main employers of foresters are the central government, local governments, NGOs and private sector. Currently the government employs 1,369 foresters of whom 889 in central government and 480 in regional secretariats and local Government authority. The estimated need is 4,249 foresters, so the deficit is currently 2,381 foresters. Thus we are operating at 32.22% of the required minimum capacity. Under ideal conditions, a professional forester should manage up to 5,000ha of natural forest. However, we currently have on the average over 20,000 ha per forester. With the current forest estate of 48.1 million hectares we will require over 9,000 professionals in the future. Thus, the human capacity is inadequate for proper forest resource management, resulting in sub-standard management of forest resources. Currently, adequate professional management services are not assured for all forests.

The main source of forestry professionals is The College of Forestry, Wildlife and Tourism at Sokoine University of Agriculture (Under the Ministry of Education) and more recently the Institute of Resource Assessment at the University of Dar es Salaam. Together, these universities have capacity to produce 150 foresters annually.

The Forest Training Institute (FTI) produces 200 forest technicians annually while the Forest Industries Training Institute (FITI) graduates 30 vocational per year. FTI and FITI are managed under the ministry responsible for forestry.

All the graduates are in mainstream forestry. Diversification or specialization in areas such as urban forestry, agroforestry, and forest industries is badly needed, but is currently not done. At the vocational level there is a serious shortfall following closure of two vocational training institutions. This reflects inadequacy of capacity to address forestry issues especially at the village and local authority levels and weakens efficiency of forest industries.

With decentralisation and private sector developments in forestry and institutional reforms, training is an important instrument for facilitating skills development at stakeholder institutions. However, at professional and technical education levels there are weaknesses in the coverage of hard sciences and gaps in the coverage of some areas especially industrial development/innovations for wood and non-wood products. Further, managerial and business skills are not well developed.

Extension services are undertaken through sharing of promotional materials, radio and TV programmes. The providers include government, NGOs and private sector. The current trend in extension services reflects fragmentation across related sectors resulting in increased illegal activities, and inappropriate management of forests.

CHAPTER THREE

RATIONALE

3.1 Reasons for the policy Review

Following the approval of the last National Forest Policy of 1998, the Government endorsed and enacted the National Forest Programme and Forest Act, Cap 323 respectively as major policy implementation instruments. In 2001 the National Forest Programme (NFP) was developed as a sectoral planning instrument to implement the policy, with emphasis on identifying national priorities. NFP is also an instrument for putting into operation the commitments and obligations derived from international agreements, protocols and inter-governmental processes. Since 2001, the NFP served as a framework for implementation of specific interventions in areas of catchment forestry, biodiversity conservation, mangroves forests, forest regeneration and promotion of PFM.

In 2002, the Parliament enacted the Forest Act No.14 (Cap. 323) as a legal instrument, which became operational through the Forest Regulations Government Notice 153 of 2004, to implement the policy. The policy also enabled the establishment of new institutions, namely Tanzania Forest Services Agency (TFS), Tanzania Tree Seed Agency (TTSA), Eastern Arc Mountains Conservation Endowment Fund (EAMCEF) and Tanzania Forest Fund (TaFF).

Despite these initiatives the policy has not been able to adequately achieve all the intended objectives due to macro-economic policy, institutional, social, political and technological changes. The key policy gaps include i) Inadequate clarity of private forest tenure for natural forests; ii) Inability to fully address climate change mitigation and adaptation measures; iii) A wood fuel policy that was largely focused on substitution; iv) Inadequate emphasis on investments, especially with regard to forest industries development and human resource capacity; v) Inadequate emphasis on the requirement of professionalism in management of all forests and industries; vi) Weak emphasis on agroforestry development; vii) Inadequate emphasis in forest monitoring and valuation; viii) Inadequate emphasis on research and development; ix) Inadequate emphasis on investment in afforestation and reforestation, and x) inadequate emphasis on forest fire management, xi) Unclear policy statement on urban forestry and xi) Inadequate policy statement on the contribution of forestry to Food security and nutrition. Revision of the policy was deemed necessary due to the above gaps.

Further, there have been changes in national macro-economic frameworks including the promulgation of the Tanzania Development Vision 2025 which led to the adoption of the National Strategy for Growth and Reduction of Poverty (NSGRP) in 2005, with emphasis on economic growth, reducing poverty, improving the standard of living and social welfare as well as good governance.

Tanzania has launched the Five-year National Development Plan 2016/17 - 2020/21 under which there are specific commitments on forest development. These are: to enact a charcoal production and use regulation policy; to strengthen the forest institutions responsible for forest management; and to establish Climate Fund and Financing mechanisms. Among other planned actions, tree growing in open areas, rehabilitation of degraded areas and institutional lands, strengthening water catchment, improving public awareness on tree growing and the monitoring and evaluation of forests are clearly identified.

The loss of biodiversity, fragmentation and degradation of valuable habitats caused by human activities are affecting the integrity of ecosystems and threatening the future supply of forest and tree products. The major drivers of deforestation and forest degradation are unsustainable agriculture, illegal harvesting, livestock grazing, charcoal making and forest fires. Further, our forests are badly exposed so they can be invaded by invasive species, pests and diseases. The National REDD+ strategy was developed as a way to counter these processes, but its implementation is still at an early stage. The current rate of deforestation is likely to rise with population growth unless special policy and actions are taken to halt it.

The Public Sector Reform Programme (PSRP) of 2000 aims at improving performance and service delivery of public institutions. The Local Government Reform Programme (LGRP) of 2002 focuses on Decentralization by Devolution (D by D), which is an important aspect for achieving meaningful institutional framework. These reforms have led to changes in institutional frameworks governing the forest sector. In 2015 the government launched a new approach to development that seeks to bring the country to middle class economy through intensive industrialization. All these national aspirations are reflected in this national forest policy.

Tanzania is party to the United Nations Convention for the Conservation of Biodiversity (CBD) and the United Nations Convention on Combating Desertification (UNCCD). Programmes to respond to respective commitments are underway within the forest sector. Moreover, Tanzania has ratified the United Nations Framework Convention on Climate Change (UNFCCC) - including the Paris Agreement of 2015. In this context, on 6th of December 2015 in Paris during the Global Landscapes Forum at the Conference of Parties (COP21), African countries launched a scheme called African Forest Landscape Restoration Initiative (AFR100). This pan-African, country-led effort to restore 100 million hectares of degraded and deforested landscapes by 2030 aims to accelerate restoration of degraded and deforested landscapes to enhance food security, increase climate change resilience and mitigation, and combat rural poverty.

Further, Tanzania has signed the Convention on International Trade in Endangered Species of Fauna and Flora (CITES), and the Ramsar Convention and she is already implementing her obligations in this regard. The Sustainable Development Goals

(SDGs) and targets also agreed in 2015 require inclusion in this forest policy. At the sub-regional level, Tanzania has ratified the Southern African Development Community (SADC) Protocol on Forestry and will implement her obligations.

This revised policy takes into account the changes as well as new perspectives expressed by stakeholders in the numerous workshops and other forums held in the country and using various means to secure participation by as many stakeholders as possible. It also includes findings of numerous studies carried out between 1998 and 2017.

CHAPTER FOUR

POLICY VISION, MISSION AND OBJECTIVES

4.1 Vision

Forest and tree resources sustainably conserved and significantly contribute to national livelihood and the global community

4.2 Mission

To effectively manage and utilize forest and tree resources for sustainable supply of products and services to meet local, national and global needs

4.3 Objectives

The objectives of the policy are as follows:

1) *Forest and tree resources effectively developed and sustainably managed.*
2) *Forest Ecosystems effectively conserved.*
3) *Production of forest and tree products enhanced and sustained.*
4) *Investments in the development of forest and tree resources and industry enhanced*
5) *Capacity of the forest sector enhanced.*
6) *Regional and international cooperation enhanced.*
7) *Impacts of HIV and AIDS infections in the forest sector reduced.*
8) *Gender equity and equality in the forest sector enhanced.*
9) *Good governance principles in the forest sector enhanced.*
10) *Contribution of the forest sector to environmental conservation enhanced.*

CHAPTER FIVE

POLICY AREAS AND STATEMENTS

5.1 Forest Management

Situational analysis has revealed that issues related to resource assessment, tenure arrangements, forest certification, valuation, participatory forest management and tree seed and propagation materials affect forest management.

On Forest assessment, the lack of forest information is a major reason for poor management of all forests. The key gap is the absence of policy directives for forest owners to undertake forest inventories regularly to support planning and projections

for informed decision-making. Periodic surveys are necessary for planning, and especially to control harvesting.

Assured tenure security is crucial for protecting ownership and user rights and for sustainable management of forests and trees. Current tenure arrangements must therefore be maintained and enhanced. However, the large areas (19.67 million ha (89.5%) of forests in village lands is unreserved (open access forest areas) and is subjected to unsustainable practices. This is the reflection of weak capacity of village governments to effectively manage the forests and insecurity of forestland tenure. The majority of village forests do not have formal tenure arrangements. Issuance of proper tenure is essential. Private forest developers in both natural and plantation forests also need to have assured tenure arrangements for at least the full rotation of their forests/trees.

The system for forest certification is currently not properly applied in Tanzania for various reasons, among them lack of enforcement. This weakens Tanzania's international trade in certified products.

Regarding PFM, Stakeholders expressed dissatisfaction with Joint forest management, as the benefits to local communities were low and unclear. Community based forest management (CBFM) works well but more professional support is essential.

The contribution of the forest sector to the national economy is underestimated because consumption of wood fuels, bee products, catchment and environmental values, support to pollination of agricultural crops and other forest benefits are not well captured in the national accounts. This is due to failure to undertake forest valuation. The valuation of forest and tree resources is an important aspect of national accounting.

For high value plantations quality germplasm is needed. However, there is little in the form of tree improvement through biotechnology (particularly vegetative propagation and tissue culture), which could boost productivity. In areas with wood deficit little is being done to find fast growing substitutes such as bamboo. Natural regeneration is also an affordable way to reforest degraded landscapes, especially when the goal is to restore indigenous vegetation.

Policy Objective

Forest and tree resources effectively developed and sustainably managed

Policy Statements

1. *Ensure regular forest and tree resource assessment and monitoring is undertaken at national and forest levels to facilitate planning and inform decision making on forest management and utilization.*
2. *Ensure proper forestland surveys and establish tenure arrangements for all forests and trees.*

3. *Ensure compliance with international standards of certification in all forests.*
4. *Promote equitable participation of all stakeholders in forest management and conservation.*
5. *Ensure regular valuation of forests.*
6. *Ensure adequate supply of quality tree germplasm for both indigenous and exotic species.*
7. *Ensure forest landscape restoration through natural regeneration and use of fast growing species.*

5.2 Forest Products and Industry

The main forest products are wood fuel, industrial timber and a large variety of non-wood products that are used for food and nutrition, herbal medicines and cosmetics among many other uses. The demand for wood fuel in terms of firewood and charcoal for heating and cooking keeps rising despite availability of alternative cooking energy sources such as electricity, biogas, industrial gas – LPG and solar. There is also high demand for timber, wood and non-wood forest products for industries and dependency on the contribution of forests to food and nutrition. The demand for Wood and non-wood products artisanal woodworks and crafts is also rising.

Wood fuel remains as the most dominant source of energy, with a growing demand that is causing destruction of natural forests. Its production and use efficiency is very just 15%. This, combined with the growing demand for timber production, the need for efficiency and more raw materials is ever rising. Nearly all forest-based industries rely on government for the supply of raw materials.

Non-wood forest products are largely informally harvested and utilized. There is no monitoring system so proper records are unreliable. There are opportunities to raise such products on farm and process them for local and export markets but these are not exploited. Additionally, there is a need for proper management of property rights and patenting to fully exploit trade potential.

Tanzania is well placed to develop forest and tree resources to meet all national needs and a surplus for expert. Our export trade is quite small because this potential is currently not utilized.

Artisanal woodworks and crafts employs over 100,000 people, this activity is dwindling due to the decline in the supply of famous tree species such as ‘Mpingo’. The technologies applied in artisanal woodworking are also wasteful and unsuitable to cope with emerging trends.

While agroforestry is recognized as a means to enhance food security and nutrition and reduce dependency on natural forests for many products, its practice on the ground is weak.

Objective: Production of forest and tree products enhanced and sustained

Policy Statements

1 *Ensure efficiency in the production and use of wood fuel*
2 *Promote establishment of wood fuel plantations and woodlots to meet energy demand*
3 *Promote alternative sources of energy to wood fuel*
4 *Ensure use of appropriate and efficient wood and non-wood product harvesting and processing technologies*
5 *Ensure production of quality forest products*
6 *Encourage the use of wood substitutes and adoption of efficient technologies in artisanal woodworks and crafts*
7 *Promote growth in domestic and international trade in forest and tree products*
8 *Promote adoption of agroforestry systems to enhance access to tree products and services and contribute to food security and nutrition*

5.3 Forest Ecosystem Conservation and Services

Issues addressed in this policy area include ecosystem types and services; forest biodiversity conservation, wetland management; wildlife; ecotourism and climate change. Ecosystem stability depends much on health and vitality of forest and tree resources in order to supply a wide variety of products and services such as clean water for human consumption, irrigation, industrial uses and electricity generation.

Currently, catchment forests and other protected areas are being degraded or destroyed. The challenges are the lack of mechanisms to ensure that users of water contribute toward conservation of catchment forests and weak collaboration among the sectors. Additionally, there are many bare-topped hills, and hillsides and valleys which are exposed to erosion due to farming activities. The consequences are massive soil erosion, siltation of rivers reduced productivity and environmental destruction.

Wetlands have significant economic, social, cultural and biological values for humans, wildlife and livestock. In spite of their importance, wetlands management is fragmented among relevant sectors and encroached, over-abstracted, undervalued or ignored as wastelands.

The quality of wildlife Protected Areas depends much on the integrity of the forest ecosystems. There are some forest reserves which overlap with game reserves or game controlled areas.

Nature Forest Reserves have high potential for ecotourism. However, they are currently not fully utilized due to inadequate infrastructures, (particularly accommodation), marketing services and awareness on ecotourism industry.

The current deforestation and forest degradation trends in the country is contributing to the global greenhouse gas emissions that cause climate change. Well-known effects of climate change on forest resources include overall reduction of growth rates, possible loss of some species, migration of some species to higher altitudes and changes in the reproductive biology (phenology). All these will definitely impact on the forest management processes and more importantly on the available products and services. In addition, forests are going to be drier in the future.

Objective: Forest Ecosystems effectively conserved

Policy Statements

1. *Institute mechanisms to ensure that consumers of ecosystem products and services contribute to conservation and management.*
2. *Ensure management plans of all forests include biodiversity conservation; watershed management; wildlife and wetlands conservation and eco-tourism development.*
3. *Encourage establishment of new reserves and upgrade forest reserves into nature reserves.*
4. *Ensure mitigation and adaptation measures to climate change.*
5. *Ensure protection of all forests from illegal activities, fires, invasive species, pests and diseases.*

5.4 Forest Investment and Financing

Forest resources cover about 48.1 mi. ha of mainland Tanzania. This resource base has many wood and non-wood products as well as scenic sites, which makes them potential areas for investment. These opportunities are currently not fully utilised. This is due to lack of incentives for tree farmers to overcome financial difficulties arising from the long gestation associated with tree and forest investments; and lack of suitable financing mechanisms for small and medium-scale private forestry and forest industry development.

Currently, financing of forest development is undertaken by the Government, Development Partners and few Non State Actors. Payment for environment services in return for benefits accrued from forests is not well understood or formalized. Private funding for development and management of natural forests is also limited.

Tree planting in towns and cities as part of urban and peri-urban forestry is not properly undertaken resulting in haphazard tree planting. Besides, urban forest management barely taught so there are few specialists in this area.

While research in trees and forests is vital for forest management and investment, funding is very low and unpredictable. There is no long term funding framework to enable long term research programmes. Further, coordination among all institutions

involved in forest research needs improvement. For example, research should be demand-driven and therefore supported by both public and private sectors.

The private sector is a prime investor in trees and forests. There is a need to recognize and encourage growth of the sector.

Objective: Investments in the development of forest and tree resources and industry enhanced

Policy Statements

1. *Promote investment and trade in Non-wood Forest Products ensuring property rights.*
2. *Establish and strengthen mechanisms to incentivise tree growers.*
3. *Strengthen mechanisms for forest financing.*
4. *Support established nature forest reserves to attract investment in the development of eco-tourism.*
5. *Promote urban tree growing and urban forests*
6. *Institute mechanisms for strengthening research capacity, funding and coordination.*
7. *Enhance private sector participation in forestry investments.*

5.5 Human and Institutional Capacity

Issues covered under this policy area include institutional arrangements, training and extension services as fundamental drivers in sustainable management of forest resources. There are adequate institutions established and functioning well but have low capacity and fragmented chain of command in managing forest resources.

Human resource capacity is generally too low to meet the demand of the forestry sector. The problem manifests itself as inadequate forestry professionals, technicians and skilled vocational workers in areas of forest management, research and industries. There are also shortfalls in teaching curricula where hard science and technological innovations are weakly addresses.

With regard to extension services, current trend indicates an increase in illegal activities and inappropriate management of forests. This is due to fragmented approaches of delivery of extension services across related sectors and limited number of qualified forest personnel in the field.

Professionalism in forestry is an essential ingredient in the management of forest and tree resources. The lack of a system for monitoring and enforcing professional conduct is a gap in the governance system that needs addressing.

Objective: Capacity of institutions and human resources of the forest sector enhanced

Policy statements

1. *Strengthen the capacity of the institutions involved in training, administration and management of forest resources.*
2. *Ensure inter and intra sectoral coordination in forest management.*
3. *Ensure adequate and qualified personnel in the forest sector.*
4. *Ensure forestry education and training for skilled manpower.*
5. *Ensure adequate extension services in the forest sector.*
6. *Ensure the establishment of a formal body to oversee forest professional matters.*

5.6 Regional and International Cooperation

Forest resources play a vital role in stabilizing the atmospheric greenhouse gases thus contributing to the mitigation of the global climate change. In order to sustain these benefits, management of the forest resources requires sustained efforts and resources that necessitate international support. At the regional level, it is important to coordinate matters of cross-border interest such as biodiversity conservation and harmonize forest management approaches.

Various regional and global frameworks are in place to support forest conservation and management. These include Southern African Development Community (SADC) Protocol on Forestry, the United Nations Framework Convention on Climate Change (UNFCCC) - including the Paris Agreement of 2015, African Forest Landscape Restoration Initiative (AFR100), UNCCD, CBD, CITES, UN Forest Instrument adopted in December 2015 and the Sustainable Development Goals (SDGs).

Tanzania is poised to fully implement her commitments in all agreements, conventions and protocols signed. However, there is weak linkage between the forest sector and various bilateral, sub-regional, regional and global initiatives. This situation leads to limited participation in regional and international negotiations. In addition, there has been feeble effectiveness on the implementation of some commitments due to limited feedback to the relevant regional and international bodies.

Objective: Regional and international cooperation enhanced

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Policy Statements

1. *Ensure realization of benefits accruing from participation in regional and international conventions and agreements on forests*
2. *Ensure compliance with and implementation of all commitments made by Tanzania regarding forests*

5.7 Crosscutting Issues

5.7.1 HIV/AIDS

HIV/AIDS and other killer diseases are affecting the forest sector due to the nature of their working environment. By nature forest reserves are allocated in confined areas where human interrelationships normally occur. As such those involved in the sector are vulnerable to HIV/AIDS infection.

Objective: Impacts of HIV and AIDS infections in the forest sector reduced

Policy Statement

Ensure mainstreaming HIV/AIDs protection and control measures in the forest sector.

5.7.2 Mainstreaming Gender in Forest Sector

Gender balance aims at providing relatively equal opportunities to males, females and marginalized groups with similar qualifications to effectively manage natural resources and provide desirable services. Forest-related institutions and organisations in the sector consider gender balance in most aspects of institution management and field operations. However, the gender proportion is skewed in favour of male staff due to disproportion in training institutions especially at the professional level. Males also seem to dominate in some areas of management of forestry resources; whereas females mostly dominated in tree nurseries, tree growing, processing, packaging, marketing and selling of bee products. Marginalised groups are generally weakly represented. Furthermore, benefits accruing from forest sector are oftentimes not equitably shared according to gender.

Objective: Gender equity and equality in the forest sector enhanced

Policy statements

1. Ensure gender mainstreaming in all aspects of forest management and development.
2. Ensure equal opportunities to males, females and vulnerable groups in forest ownership and management

5.7.3 Good governance

Good governance is reflected in reduction of corruption; stable property rights; and rule of law. In an ideal world, good governance in the forestry sector would ensure that positive policy contributions result from the implementation of sectoral action plans that are based on existing policies, legal framework and institutional structures.

The forest sector operates in an environment where scarce resources are managed in a participatory manner and necessitate benefit sharing. Despite efforts to improve transparency, accountability and rule of law incidences of corruptions still exist.

Objective: Good governance principles in the forest sector enhanced.

Policy Statement

Ensure adherence to good governance principles and practices in the forest sector.

5.7.4 Environment

Forests and trees, are able to sequester carbon (and thereby reduce the release of carbon dioxide into the atmosphere). Cautious management and use of wetlands reduce greenhouse gas emissions. There has been efforts to address the environmental challenges in the forest sector. However, trends show loss and degradation of forests, declining fresh water, soil degradation and erosion, biodiversity losses and accumulation of hazardous substances and pollutants.

Objective: Contribution of the forest sector to environmental conservation enhanced.

Policy statement

Ensure mainstreaming of environmental conservation in all aspects of forest management and development.

CHAPTER SIX

LEGAL FRAMEWORK

Principally, the implementation of this policy will be guided by The Forest Act of 2002, which will also be reviewed and updated. The legislation for the forest sector will continue to be periodically updated and harmonized, taking into consideration the changes in the policy and acts of key link sectors especially Lands, Energy, Minerals, Water, Environment, Wildlife, Beekeeping, Tourism, Antiquities, and Local Governments. The Forest Regulations and Guidelines of 2004 will be revised to ease the implementation. The legal review of the forest sector will also take cognizance of the revised roles of different stakeholders carrying out operational and managerial functions with regard to the forest and tree resources in the country.

CHAPTER SEVEN

INSTITUTIONAL FRAMEWORK, MONITORING AND EVALUATION

7.1 Institutional Framework

The Ministry responsible for forest sector will oversee implementation of the National Forest Policy in Tanzania Mainland. The Ministry will collaborate with stakeholders including key ministries, Local Governments and non-state actors. The roles and responsibilities of the main actors are as follows:

7.1.1 Ministry responsible for forestry

The Ministry has the overall coordination of the forestry sector. Specifically the Ministry will undertake the following functions:

i. Develop a comprehensive and effective legal and institutional arrangement ;
ii. Monitor the development of the sector;
iii. Promote effective participation of stakeholders in forestry and forest industries development;
iv. Create enabling environment for collaboration with National, Regional and International institutions in forestry development;
v. Support national capacity building in forest Education, Research and Extension services;
vi. Provide leadership in rresources mobilization; and

vii. Establish entities and mechanisms that streamline forest and forest industry management.
viii. Ensure compliance with international standards and guidelines
ix. Ensure inter-ministerial coordination and compliance on all forest matters
x. Promote partnership with private sector

7.1.2 Key sector ministries

These ministries perform activities, which have direct impact to the sector. They will:

i. Provide alternative energy sources;
ii. Ensure proper land use management plans;
iii. Oversee compliance of environmental impact assessment;
iv. Harmonize extension services, training and research;
v. Ensure management of water catchment forests;
vi. Collaborate in climate change adaptation and mitigation actions; and
vii. Ensure enforcement of forest laws

7.1.3 Other Government Institutions

i. Coordination and collaboration in provision of extension services, training and research;
ii. Forest Law enforcement;
iii. Assist in monitoring and evaluation;
iv. Provision of support in collection and dissemination of information;
v. Assist in licensing of industries and trade in forest products;
vi. Provision of support in forest conservation and management; and
vii. Creating enabling environment in forest investments.

7.1.4 Authorities and Executive Agencies in the Forest Sector

The functions of the Authorities and executive agencies are:

i. Manage national forest reserves, oversee trees and forests outside gazetted areas and in private lands;
ii. Undertake extension services Ensure supply of quality forest products and services;
iii. Issuing licences, permits, certificates and ensure compliance on forest products utilization;
iv. Provide forest Law enforcement;
v. Conduct monitoring and evaluation;
vi. Establish and manage natural and forest plantations, and apiaries;

vii. Collect forestry revenues;
viii. Provide quality tree seeds and other propagating materials;
ix. Develop institutional capacity in terms of human resource. finance and infrastructure;
x. Develop collaborative mechanism with relevant entities; and
xi. Create income generating opportunities.

7.1.5 Local Governments

As a player in forest management local governments will:

i. Coordinate and provide extension services;
ii. Revenue collection.
iii. Management of local government forest reserves;
iv. Forest Law enforcement.
v. Establishment of new local government forest reserves;
vi. Promotion of tree growing.
vii. Support communities in establishment and management of village land forest reserves.
viii. Collaborate with central government in management of national forest reserves.
ix. Monitoring and evaluation.
x. Capacity building and awareness for staff and local communities Promote partnership with private sector.

7.1.6 Local Communities

i. Conserve forest resources in their area of jurisdiction;
ii. Recognize and support traditional communities;
iii. Participate in joint management of forests;
iv. Participate in tree growing programme;
v. Provide farmer-to-farmer advice;
vi. Formulate and enforce by-laws, and
vii. Establish forest-based income generating activities.

7.1.7 NGOs, CBOs, Faith-based Institutions, Mass Media and Political Parties

i. Create awareness and advocacy;
ii. Facilitate technical assistance, training, Research and technology transfer;
iii. Provide financial support on forestry activities;
iv. Promote gender participation and youth involvement in forestry; and
v. Sensitize investment in forest industry and trade.

7.1.8 Private sector

i. Invest in forest industry;
ii. Create partnership in management of conservation areas;
iii. Provide employment opportunities;
iv. Transfer of sound production technology;
v. Produce and add value on wood and non-wood forest products;
vi. Conduct market research of forest products and services;
vii. Conduct sustainable harvesting and utilization of wood and non-wood forest products;
viii. Create awareness and support outreach programme;
ix. Solicit funds for investment in forest industry;
x. Promote Eco-tourism development; and
xi. Promote Public-Private Partnership arrangement in forest plantations.

7.1.9 International Community

i. Provide financial and technical assistance;
ii. Facilitate capacity building in forest industry; and
iii. Support implementation of international obligations.

7.2 Monitoring and Evaluation

To oversee implementation of the National Forest Policy, monitoring and evaluation is an important aspect. The monitoring and evaluation aspect will be undertaken at all levels through different approaches. These include meetings with stakeholders, feedback through media, field trips, research and studies. Independent monitoring groups will be given opportunity to conduct researches and give feedback for improvement in sector performance.

A systematic and well-defined monitoring and evaluation system will be developed and operated according to the institutional framework. The system will include performance indicators. Monitoring and evaluation reports of the policy will be shared publicly. Strategic interventions with regard to monitoring and evaluation will be made from time to time as found necessary.

7.3 Conclusion

This policy is the product of consultations, studies and experiences drawn from the entire spectrum on institutions (governmental and non-governmental), local communities, international agencies, private sector and persons with stakes in Tanzania's forests and trees. The policy statements herein are forward looking and directed at enhanced sector performance at all scales, with roles for practically all stakeholders from local communities to

national, regional and international stakeholders. It is anticipated that its implementation will require collaboration among all stakeholders.

The overall impact of this policy is enhanced livelihoods, stronger contribution to the national economy, increased employment opportunities, and effective contribution to international goals, especially on biodiversity conservation and climate change mitigation and adaptation.

For effective implementation of this policy there is a need to mobilize human and institutional capacity for efficient management of our tree and forest resources. By rectifying shortfalls in tenure security the policy will restore the conservation of fragile ecosystems, enable sustainable supply of affordable tree products and environmental services while strengthening forest industrial development and efficiency.

Regularizing and strict monitoring of wood fuel production and consumption will enable better revenue collection, restoration of degraded landscapes through tree growing and regeneration of our natural forests,

By restoring water catchment and conservation, we will ensure more and better water quality. Through the proposed agroforestry and tree growing activities by a wide range of stakeholders we will enhance landscape restoration, and improved biodiversity. Further, this policy will enhance gender equity, and reduce HIV and AIDS infections at forestry institutions.