



REPUBLIC OF ZAMBIA
MINISTRY OF TOURISM, ENVIRONMENT AND NATURAL RESOURCES

Situational Analysis Report of the Forestry Sector

(A SUMMARY)



1. Introduction to the Review Process of the Forestry Policy of 1998

The Ministry of Tourism, Environment and Natural Resources through the Department of Forestry commissioned a National Forestry Policy review in August 2009 with funding from the cooperating partners. The review was targeted at the Forestry Policy of 1998. The Forestry Policy of 1998 was aimed at changing the national institutional and legal framework for forest management and administration. One of the cornerstones of the policy was the ushering in of the Zambia Forestry Commission which was aimed at enhancing efficient management of the national forest resources. The Forestry Policy of 1998 was part of the government reform programme aimed at changing the centralist approach to forest management through the addition of broad stakeholder participation. The shift from centralised management to broad-based participatory framework was expected to bring about a broad base for the governance, transparency and democracy in forest resources management.

The formulation of the Forestry Policy of 1998 was within the framework of the National Environmental Action Plan (NEAP) which was formulated in 1994. Through this plan, the government appreciated the need for adopting sustainable policies aimed at maintaining ecosystem functionality, essential ecological processes and the nation's biodiversity in agricultural and non-agricultural landscapes. The NEAP identified five problems as imposing the greatest social costs on the Zambian people; namely, water pollution and inadequate sanitation, soil degradation, air pollution, wildlife depletion (fish and game) and deforestation. The greatest costs, both environmental and social, of these problems are borne by the poor who have limited capacity to adapt to environmental changes, which are basically consequences of development. The Forestry Policy of 1998 was therefore formulated to meet aspirations of the poor and the vulnerable in society and other stakeholders. The policy was operationalised through the enactment of the Forests Act No. 39 of 1999 even though this act has not been operationalised.

The review of the Forest Policy of 1998 and the amendment of the Forest Act No. 7 of 1999 has been necessitated by

1. The Ministry of Justice advised that the Forests Act No.7 of 1999 need to be commenced to allow the repeal of the Forests Act No. 39 of the 1973, since the Forests Act No. 7 was already assented to by the President
2. The Forests Act No. 7 of 1999 provides for the establishment of the Zambia Forestry Commission which Government is at the moment unable to fund due to financial constraints
3. Due to the fact that the proposed establishment of the Forestry Commission was aimed at enhancing the capacity of the Forestry Department, there is therefore need to review the policy and legislation which underpinned the Forest Act of 1999 to restructure the Forestry Department.
4. Since the Forestry policy was put in place in 1998, a number of challenges and emerging issues have emerged which include issues of climatic change, global warming and the role of forests in mitigating negative impacts from this phenomenon.
5. The need to put in place a broad based integrated approach to sustainable forest management to ensure that the drivers of deforestation and forest degradation are dealt with in a participatory manner.

In order to provide information on the status of the forestry sector and provide a framework for the review of the Forestry Policy of 1998, the Ministry of Tourism, Environment and Natural Resources, commissioned a provincial stakeholder consultative process which took place between September 1-11, 2009. The provincial consultative workshops were supplemented by consultations from selected districts within the province.

2.0. Analysis of the Forestry Sector

2.1. The forest resource base

Forests cover 66.4 percent of Zambia's total land area with another 8 percent being covered by other wooded land types which translates into approximately 49.97 and 6.1 million hectares respectively. In addition, an estimated 9.9 percent of the total land area is gazetted as forest reserves. Out of the total area classified as forest reserves, 44 percent is set aside for production, 30 percent for both protection and production, and the remaining 26 percent is for protection only. The whole estate occurs on state, trust and reserve lands.

The Integrated Land Use Assessments (ILUA) undertaken from 2005 to 2008 revealed that 63 percent of forest land is relatively undisturbed or slightly disturbed, 26 percent moderately disturbed and 5.6 percent of the forests is considerably disturbed. The total wood volume for the country's forests stands at 2,940.7 million cubic meters with 39.1 cubic meters as the tree volume per hectare. The commercial volume per hectare is estimated at 4.9 cubic meters. Estimates by ILUA have shown that the deforestation rate is 350,000 hectares per annum which is attributable primarily to agriculture expansion into the forested land. Permanent land use changes, driven by low crop productivity in crop lands under subsistence agriculture, and a combination of factors have therefore been the major cause of deforestation.

2.2. Forest Management Systems

The forest management system pertaining to protected forests in Zambia today is still a centralized system embodied in the structures of the Forestry Department. There are three forestry management systems within the centralized management systems such as Joint Forest Management, Wood Land Management System and Plantation Management System.

Joint Forest Management (JFM) entails a collaborative management system where the local communities and the Forestry Department agree to have shared responsibilities and benefits in the management of forests.

There is a licensing system which qualifies individual community members and others outside the JFM system arrangement to gain entry and access to the forest resources. JFM recognizes the responsibilities of producer groups and, village resource management, area resource management and the forestry resource management committee. The producer groups are formed around specific activities meant to exploit a particular resource in a sustainable manner to support local livelihoods and income generation.

Producer groups in pilot JFMs include Fire Wood, Bee Keeping, Basketry, Mushrooms and other non-wood forest products. Producer groups are arranged in Village Resource Management Committees (VRMC) which oversees activities of the JFM at village level. A combination of several VRMCs constitutes an Area Resource Management Committee (ARMC). The ARMCs in a district constitute a Forest Management Committee (FMC). The FMC is represented by the District Forestry Officer and superintends over all forestry management issues in all JFM areas in the district. The flow of authority and responsibilities follows the normal communication channel of the Forestry Department.

Plantation Management System refers to the establishment and management of plantation forests for purposes of timber production. Industrial, local supply and farm plantation management constitute the categories of plantation management sub-systems in Zambia. Industrial plantations are located on the Copperbelt province under which plantation management is applied by the Zambia Forestry and Forest Industries Cooperation (ZAFFICO) together with the Copperbelt Forestry Company (CFC). Local supply plantations are scattered throughout Zambia and are managed by the Forestry Department. Farm forestry is widely scattered and is mainly practiced by commercial farmers such as Heygate's Farm in Lufwanyama. Farm forestry can be extended to cover the village woodlots that are of varying sizes. Wood Land Management System pertains to forestry protection, management, conservation and production in indigenous wooded areas.

The management system that is well executed remains at farm forestry level compared to the forest plantation and woodland management systems.

There is no discernible intervention under the woodland management system except that the Forestry Department regulates the use of timber and non-wood forest products (NWFPs) through licensing and forest concessions. The Forestry Department and the private sector are involved in logging timber even though the latter has to obtain a licence. A licensing system avails access to the private sector industries to also access plantation forests for logging purposes from ZAFFICO and CFC.

Some of the constraints that have befallen forestry management in Zambia include

- i. an institutional framework that does not restructure to meet modern day forest management needs
- ii. inadequate numbers of properly qualified human resources
- iii. inadequate multi-disciplinary approaches to forestry management
- iv. poorly understood and unknown stocks and related commercial values of natural forests that does not attract significant investments
- v. inadequate forest products monitoring and control systems
- vi. lack of adequate geographic coverage of forestry personnel to carry out patrols in protected areas
- vii. inadequate collaborative arrangements and lack of involvement of local communities and other stakeholders in forest management
- viii. absence of a forestry master plan and forestry management plans
- ix. inadequate funding to state forestry management
- x. lack of a forestry information management system and an effective forestry extension structure and
- xi. absence of a clear legal framework pertaining to forestry.

2.3. Contribution of the Forestry Sector to the National Economy

Preliminary results of the official contribution of the forestry sector to GDP have given an indication of 6.3 percent at constant 1994 prices making the forestry sector the highest contributor to GDP in the ISIC section A (Agriculture, Forestry and Fishing). These were broken down as follows: forestry 5.2 percent, Manufacture of wood and wood products 0.8 percent, paper and paper products 0.3 percent (CSO, 2007). Prior to the institution of National Forestry Program facility (FD/FAO nfp) studies, the performance of the sector remained at 0.9 percent of GDP.

Since the forestry sector competes with other line ministries for the allocation of resources by the Ministry of Finance and National Planning, this result is catalytic.

The basis for resource allocation is often based on the contribution that the sector makes to the national economy through Gross Value Added (GVA) and Gross Domestic Product (GDP) figures determined by CSO (Benchmark estimates, 1994). The wood and wood products sub-sector recorded an increase of 3.7 percent indicating increased activity and therefore the hitherto contribution to poverty reduction and the national economy.

The CSO report also showed that in 2006 wood energy was the largest source of cooking energy by residence in Zambia accounting for 74 percent. Firewood was largely consumed in rural areas where electricity as a source of cooking energy is only 2 percent. The average growth rates per annum since 1994 were 4 percent for forestry, 2.6 percent for wood and wood products and 5.0 percent for paper and paper products. These indicators have been used for a long time and it was noted that they needed an immediate review to reflect the economic changes that has taken place since 1994.

Round wood production estimates from forests results in the value-added by the forestry sub-sector of approximately USD12 million per annum. Revenue from indigenous forests represents 4.7 percent, plantations 7.3 percent while the contribution from other modified indigenous forests accounts for 86 percent. The 86 percent contribution to the forestry sector total GVA by the informal sector indicates the potential to increase forest revenue collection thus providing the link between forestry contribution and poverty alleviation.

Estimates indicate that wood fuel will continue to have the largest share of wood removal in the country with over 7 million m³ removed every year. Industrial round wood removal from all forest types combined was projected to reach over 1 million m³ in 2006 estimated at 59,000 m³ from indigenous forests, 311,000 m³ from plantations and 777,000 m³ from other modified forests, respectively. Round wood supply from plantations increased from 140,000 m³ in 2001 to 311,000 m³ projected for December 2006.

It was also estimated that the demand for plantation round wood would outstrip the potential supply of 400,000 m³ per annum leading Zambia into a wood deficit by the end of 2006.

The FEVCO study has established that 1,100 persons are employed by the Forestry Department, while 9,000 are in the manufacturing sector, 152,000 in wood energy and 888,806 in NWFPs bringing the total employment in the national forestry sector to 1,050,906. Therefore, the informal NWFPs sub-sector was found to be the largest employer accounting for 84 percent of total employment. Charcoal and fuel wood currently employ the second largest number of people in both the formal and informal sectors owing to the increasing high demand of the commodity among the population more especially in urban areas.

The survey also indicated that a number of individuals setting up new small-scale commercial forest based enterprises and the number of sawmills currently engaged in both hard and soft woods are on the increase. In the informal sector, both males and females are engaged in more than one product activity to sustain the flow of household income. The analysis of the selected products shows that Luapula and Eastern Provinces have the highest level of male employment. It was estimated that more than 60 percent of the economically active population in the country earn their livelihoods from forest related activities. Timber productivity from indigenous forests was estimated at 325m³ per person while that from plantations stood at 396 m³ per person.

Studies also revealed that in areas with high incidence of poverty, households depend greatly on the collection of NWFPs for consumption rather than for income resulting in low value-added per unit of output. In urban areas on the other hand, the value-added per unit of output was higher. The linkage of the forestry sector contribution to poverty alleviation was strongest in the informal sector with NWFPs employing 880,000 people viz 9,000 in the forestry manufacturing sub-sector. The value-added for the NWFPs sub-sector was estimated at USD156, 000 per annum. Although NWFPs were found to constitute a safety net for many households, their potential contribution to the national economy and poverty alleviation among the population has not been tapped nor properly accounted for.

The study conclusively established that households deprived of food and income use more forest products particularly NWFPs as a source of food and income for livelihoods which constitutes the linkage to poverty alleviation.

2.4. Climate change

The effects of climate in Zambia manifest in various forms such as unpredictable cold and hot spells, delayed on-set and early end of rain season and reduced amount of rainfall. Additionally, localized flooding that has been experienced over the past few years has been related to above normal rainfall occurring in some areas of Zambia.

The low regional cereal production, as a result of drought in the 1991/92 season put an estimated 30 million people at the brink of starvation in the region while the El Niño related drought resulted in a deficit of a regional cereal requirement of 7.6 million tons. In the 2001/02 season, 1.2 million tons of cereal deficit was reported in Lesotho, Malawi, Swaziland, Zambia and Zimbabwe. Although climate change impacts are slowly being felt in Zambia, there exist an opportunity to mitigate such impacts through forest management. Zambia like many other countries has recognised the opportunity and indicated political commitment to tackle climate change. A communication of political will in mitigating the effects of climate change is the preparation of the National Adaptation Program of Action of 2007.

Stakeholders are all aware that degrading forest lands and depleting forests are major contributing factors to climate change due to the reduced surface area for carbon sequestration. Some of the practices that were identified as contributing to forest degradation and depletion include uncontrolled and excessive charcoal production, subsistence agriculture, poor land use planning, centralized forest management, inadequate enforcement of forest legislation and poor forest management.

2.5. Cross cutting issues and forestry development and management

2.5.1. HIV/AIDS mainstreaming

The country's underdeveloped health infrastructure and pervasive poverty continue to pose problems as unprecedented challenges of providing and administering antiretroviral therapy (ART) to people living with HIV/AIDS (PLWHA). In these resource-constrained settings, other options have been adopted as necessary measures for the management of HIV/AIDS. Throughout the world where the majority of PLWHA lack ART, traditional medicine is being institutionalized in the response to HIV/AIDS, and the management of HIV/AIDS is, in significant part, a function of woodland resources. Local responses involving traditional medicine in the management of HIV/AIDS, and current institutional efforts to scale up support for these responses, need to be accompanied by concerns for medicinal plant resources to avoid compromising the sustainability and long-term feasible use of this resources.

Where HIV/AIDS affected households experience impacts involving reductions in financial, physical and natural assets leading to increased vulnerability and food insecurity it could be expected that such households not only alter their woodland activities but may increase reliance on woodland activities as a coping, and more consistent livelihood strategy. On the other hand, labor and knowledge are the major inputs into woodland activities and the loss of these resources could have a negative effect on household engagement in woodland activities. These contrasting correlations, and the complexity of household dynamics influencing livelihood strategies, have led to conflicting views on the relevance of classical woodland-based livelihood and coping strategies in the context of HIV/AIDS. In order for the Forestry Department to develop HIV/AIDS responses that are based on forest-based needs and capacities of affected households, and to create an enabling environment for household adaptation to long-term effects of HIV/AIDS, it is necessary to thoroughly explore and understand these relationships. Part of the strategy is an in-house development of a forestry work place HIV/AIDSs policy in line with the national HIV/AIDSs policy.

2.5.2. Gender and Persons with Special Needs in Forestry management

The traditional division of labour places household responsibility on women has led to women becoming the de facto food providers for their families in many rural settings. This has resulted in women to depend more on the natural resources which is evidenced by the large number of women trading in mushrooms, caterpillars, tubers and many other NWFPs by the roadside. This responsibility has led to a build up of women's local knowledge on conservation, forests and natural resources.

Despite women's, the youth and persons with special needs' dependence on natural resources, their limited rights on forest resource tenure has continued to escalate the cycle of poverty. Land in the rural resource-poor setting is often the most valuable economic asset a household could possess. Land could translate into food, money, credit and a sense of identity and power. With no access and/or control of land, Zambian women (like most their African counterparts) are often left to seek alternative means of survival and constitute. The "disposed" are a very high proportion of the poor of the poorest and therefore continue to depend on natural resources.

Cultural practices and norms which tend to hinder women's, the youth and persons with special needs' progress are still common in the provinces, especially in rural areas. Women come from a history which does not allow them to assert themselves in every situation. Forestry management programmes are not an exception and continue to favor men for senior positions than women, the youth and persons with special needs. This has partly resulted in youth unemployment which has led to many young people to turn to businesses like charcoal production which are destructive to forests.

2.6. Status of technology in the forestry sector

Even though the country has an abundance of forest resources, few forest industries exist. The major industries are plantation, sawmilling, honey and beeswax processing and, processing of other NWFPs.

Plantation Establishment: establishment of plantations, particularly by ZAFFICO and the Forestry Department still employs 1970s technology which is highly manual and costly. ZAFFICO and the Forestry Department do not have modern technology in their nurseries nor is this technology available during plantation establishment and management.

Sawmilling: the industry is based on the existence of indigenous tree species. Squared timber blocks are usually made by hand axe and exported out of most provinces to the Copperbelt, Lusaka and for export to South Africa and Asia. Sawn timber is produced by pit sawyers who employ two man pit saws handled by small groups of less than five individuals. Suitable trees are converted to logs and sawn into planks on site. Hand axes and some saw blades are locally fabricated or maintaining saw blades that have been used over time. This industry significantly contributes to high wood wastage in Zambia's natural forests. In terms of sawmilling technology in semi-government and the private forestry sector, little has changed from the use of old Kara Saw Mill and imported second hand sawmilling equipment.

Honey and beeswax: bark hives are still being used in apiculture despite many attempts and projects aimed at introducing modern hives. Small honey pressers to process honey are used on a small scale. Most beekeepers use manual methods to process honey that is harvested from bark hives. The honey is rarely packaged for final use within the area where it is collected except in Kabompo (North-western Bee Products), and Mwinilunga (Forest Fruits).

Charcoal: despite being the most consumed forest product, it is still being produced using the traditional earth mound method and packed into used hessian, cement and sisal sacks for final distribution to the users. The conversion method is known to be wasteful as the recovery process is poor.

Other NWFPs: despite the abundance of mushrooms, caterpillars and medicinal plants collected from Zambia's forests and other NWFPs, little investment and appropriate technology transfers have occurred since independence. Mushrooms, caterpillars and medicinal plants have huge potential for commercialisation, but limited processing, storage and packaging technology exists locally. Handling and processing of fruits, the post harvesting practices, covering aspects of harvesting, extraction, drying and sorting of kernels, storage and packaging are also problematic. Available technology has remained at collecting, cleaning, drying and marketing using household utensils.

2.7. Research and Development

The state of forestry research in the country has seen a steady decline from the early 1970s. The decline has been observed from a complete absence and in some cases lack of new findings and research reports. The problems are related to

- i. Low level prioritization of the research and development function of the forestry sector
- ii. Declining funding to R&D which also relates to staff development and, obsolete equipment and facilities
- iii. The forestry research and development institutional framework is weak
- iv. The communication of research results for application in practice is generally poor and to a degree non-existent;

2.8. Emerging issues in forestry

Biofuels

The use of jatropha as a source of fuel is widely talked about in Zambia and has implications for forest management in terms the setting aside of land for large scale biofuel crop production. Although sugar cane can easily be grown in many provinces, there have not been serious plans or trials of making methane from sugar. Methane is an important gas that can be used by many households in cooking simple meals and therefore this could release the heavy dependence on wood fuel.

Invasive Alien Species

The increasing global movement of people and products is facilitating the movement of alien species around the world. Most of these non-native species die under the new, unfamiliar conditions, but as worldwide movement of people and goods increases, thousands of so-called invasive species make their way abroad and drive out or infest native species. Invasive species threaten global biodiversity and often damage commercial crops. *Toona ciliata*, *Lantana camara* and *Tithonia diversifolia* are important species that have been reported in the Copperbelt and Northern Province. The water hyacinth colonises water bodies and is commonly found the Kafubu and Kafue rivers. In the absence of their natural predators, competitors and pathogens, they can prosper in new environments and spread at the expense of native species, affecting entire ecosystems.

Global Demand for forest products and services

Forests provide for indirect benefits such as the stabilisation of the local climate that benefit agricultural production and human well-being. The ecological functions of forests for environmental flows and bio-diversity conservation indirectly benefit users both near and at distant locations from the forest. Issues of carbon sequestration that has translated into carbon credits have thrown forests into the limelight and sharply re-focussed its multitude of both quantitative and qualitative values to society and the environment. Zambia, as a member of the global community is currently engaged in the development of a reduction of emissions from deforestation and forest degradation (REDD) strategy document. It is expected that the strategy will inform the country concerning how this national resource can be sustainably managed to provide economic and environmental benefits. Payment for environmental services (PES) mechanisms are also being discussed that will allow a re-think in situations such as the obligations that downstream users of ecosystem services has towards the cost of maintaining catchment forests upstream.

Ecotourism

Nature reserves and eco-tourism are vital for forest conservation. They need to be legally recognized to safeguard the sites against any changes in status in future. Forest can offer important sites for tourism to people from more developed countries and in turn, local communities can use this as a source of income.

Forest ecosystems that are attractive for tourism include the *Cryptosepallum* forests of the north-western province.

Loss of Biodiversity and Germplasm Conservation

Apart from provision of food, building materials, medicine and wood fuel, the forests also play a major role in the preservation of animal biodiversity. Even though the extent of the loss of biodiversity due to deforestation, it is generally accepted that most areas which used to harbour wildlife are now depleted due to the degradation or depletion of forests. A striking example are the Tsetsebe, jackals and velvet monkeys that roamed the forests around Matipa on the Chilubi island in the 1970s which are no longer seen. The loss of these animals is due to a combination demographic changes and its impact on forests of Chilubi island.

Genetically Modified Organisms and Biosafety

Many European and developing nations have voiced concern about the health and environmental risks associated with imported genetically modified organisms. In early 2000, 130 nations devised the Protocol of Biosafety. Formally approved in June 2003, the treaty requires exporting nations to notify importers when products contain genetically modified organisms, including seeds, food crops, cattle, and fruit trees. The international convention is domesticated through the Biosafety Act No. 10 of 2007 which regulate the research, development, application, import, export, transit, contained use, release or placing on the market of any genetically modified organism whether intended for use as a pharmaceutical, food, feed or processing, or a product of a genetically modified organism. This legislation, when properly administered, will support the preservation of Zambia's biodiversity.

2.9. Transboundary forest resources management

Transboundary natural resource management is growing rapidly in Africa and the rest of the world and as an important new tool in (a) broad landscape approaches to sustainable natural resource management and biodiversity conservation, (b) a way to promote regional economic development, (c) reunite divided communities and bring peace among nations and (d) a way to fulfil many other opportunities and large

investment. There exists substantial trade in firewood, charcoal, mushrooms, fruits and caterpillars across Zambia's borders with DR Congo, Malawi and Tanzania. The Zambian government and neighbouring states, through various SADC mechanisms, can reach a consensus to reduce the illegal trade in forest products.

3.0. Stakeholder perceptions of key issues in forestry management

Stakeholders observed the following as key issues whose resolution will facilitate the management of forest resources in a sustainable way

Key Issue 1: Sustainable Forest Resources and Ecosystem Management

Zambia is endowed with a variety of some high productive forest ecosystems such as the teak forests of the south-west region and the extensively occurring Miombo woodlands which are highly renewable. These extensive forests consist of forest reserves, forest areas under traditional leadership (forests on customary land). Coupled with these forests are plantations of exotic species that occur on the Copperbelt and local supply plantations across the country. Over the years, the forest estate has been continually depleted to the point that a considerable proportion of the forest land has been lost to other land uses. This has led to the declined productive and functional role of forests due to deforestation and forest degradation which has resulted into a reduced flow in forest products and the carbon sequestration role of forests.

Therefore, in order to ensure sustainable management of forest resources and ecosystem management, the country must ensure the integrity, productivity and the development potential of the forest resources is maintained.

Other objectives related to sustainable management are to

- i. Ensure adequate protection of forests, by empowering local communities and promoting the development and use of wood, non-wood forest products and services
- ii. Promote investment in plantation forestry
- iii. Ensure sustainable management of forest ecosystems and biodiversity through the application of both scientific and local knowledge
- iv. Improve the role of forests in the provision of ecosystem services and abatement of climate change.

Key Issue 2: Forest Based Industries and Non-wood Forest Products Development

The majority of the population of Zambia depend on NWFPs as a source of medicine, cultural identity, shelter, food, crafts, recreation and industrial raw materials. Essentially, every citizen benefits from the ecosystem service that forests provide in terms of carbon sequestration and maintenance of environmental flows. However, the contribution of non wood forest products and the ecosystem value from forests have not been well documented. Similarly, the potential of forest-based industries to deal in various forest resources and services has not been fully developed. This is due to a variety of problems ranging from inadequate skilled human resource to inadequate incentives for private sector investment in the forestry sector. At present the wood fuel industry is the single largest informal forest based industry providing about 90 percent of household energy requirements. To promote the role of the private sector in the development of the forestry industry in Zambia, the establishment and development of forest-based industries that respond to the national sustainable development criteria should be promoted. Other objectives are to

- i. Ensure the establishment and sustainable management of forest resources for wood fuel production
- ii. Recognise and support the development of value adding to non-wood forest products.

Key Issue 3: Forestry Research and Development, Extension and Capacity building

Forestry Research and Development

Forestry research is considered to be key to the development of the forestry sector. It provides the fundamental basis by which forestry information is discovered, correctly interpreted and accepted as technology or knowledge available for use and application in solving practical forestry problems. The overall goal of forestry research is to ensure that appropriate forest research methodologies and technologies are developed and applied for the proper management and utilisation of forest resources in the country.

The post 1970s era has seen a considerable decline in trained human resources, research outputs and financial injections in forestry research. The situation has been made worse by the deteriorating performance of the national economy particularly in the last two decades. The goal in forest research and development is to establish an efficient and effective forest research and development service to conduct research on all aspects of forestry and forestry industries in order to enhance forest productivity and efficient utilisation of wood, NWFPs and services through the development of research expertise, facilities, an institutional framework and create an enabling environment to meet forestry research needs.

Forestry Extension

A number of extension agencies have emerged with specific sectoral messages for example crop farming, livestock production, tree growing, energy, small- scale industry, birth control, and health. In forestry extension, there is also the need to put in place an effective and efficient system of delivering information on forestry development to target groups. This will be achieved through the strengthening and development of human capacity with extension skills and a service delivery framework to effectively and efficiently meet stakeholder needs.

Human Capacity Development

Development of the forestry sector requires adequate and appropriately qualified human resources to implement management strategies. Currently, the forestry sector is constrained by inadequate and untrained personnel and very weak training institutions. In addition, forestry training has in the past emphasized more on plantation forestry directed at meeting industrial demand for timber at the expense of indigenous forest management. The country should realise that this situation will continue worsening unless a good mix of professional and technical personnel with sound knowledge and skills necessary for management, research and extension is available to help facilitate effective and sustainable forest management through stakeholder participation. It is necessary that the human resource base is developed by developing and broadening skills and knowledge of personnel involved in forestry management and development, and support to training institutions.

Key Issue 4. Forest Licences

Licensing of forest activities serves the purpose of regulating exploitation of forest resources and raising revenue for the nation. However, the current licensing system has failed to meet this purpose due to the following:-

- i. Illegal utilization of forest resources namely exploitation without licences
- ii. Inadequate supervision of concession holders due to lack of transport and financial resources
- iii. Non-compliance with the conditions attached to the licence due to inadequate supervision and lack of penalties imposed on those contravening forest licence regulations
- iv. Under valuing of the forest products
- v. Existence of inadequate accountability mechanisms
- vi. Lengthy licensing procedures
- vii. Lack of forest management plans
- viii. Difficulties in obtaining licences
- ix. Lack of involvement of resident local community representatives and other stakeholders in the license approval process and monitoring of the exploitation of forest resources.

For the forestry sector to contribute positively to the national economy and the livelihood of the population, it is paramount that the country regulates exploitation and ensure efficient use of forest resources and products.

Key Issue 5: Export of Forest Products and Carbon Trading

The export of forest products and carbon trading are important for the generation of foreign exchange earnings and for the capitalisation of the Zambian forestry industry sub-sector. However, this does not seem to have materialised and in some cases it has negatively affected the local industry and the resource base. In order to generate capital, employment and encourage sustainable management of forest resource, the contribution of the forestry sector to the national economy and the generation of foreign exchange for the capitalisation of the forestry industry must be maximized through promotion of trade in forest products and services.

Key Issue 6: Mainstreaming Gender, HIV/AIDs and persons with special needs in Sustainable Management of Forest Resources and Forest Industries Development

Women who are the primary users of forest resources and important oral depositories of forestry traditions often have their rights at variance with those of men with regard to forest ownership and governance, policy formulation and management decisions, and consequently their interests are inadequately represented in the country's development process. It is therefore, necessary to integrate sustainability with gender equity and social justice. This is possible by ensuring gender equity, HIV/AIDS and the interests of persons with special needs are mainstreamed in all aspects of forestry management, industrial development, production and utilisation of forest products and services, and for the forestry extension, training and education sub-sectors.

Key Issue 7: International Obligations

In the interest of regional collaboration, the Government of the Republic of Zambia will, wherever and whenever possible, collaborate with neighbouring states in the sustainable management of transboundary forest resources in order to maintain the integrity of forest ecosystems. In the pursuit of sustainable forest management, Zambia will endeavour to be a model for the conservation and sustainable utilization of forest products and services. Zambia will also maintain the observation of international forest-related conventions and agreements to which she is a signatory such as CBD, CITES, Convention on Climate Change, Convention on Combating Desertification, Convention on Wetlands (Ramsar), Convention on the Protection of the Ozone layer, the Montreal Protocol, UNCED Declarations agreed to at Rio in 1992, UNFCCC, the Global Statement of Principles on Forests and those that will be formulated in the course of the duration of this policy. It is therefore, necessary to ensure that international obligations are carried out to engender a contribution to efforts at the international level to increase environmental and socio-economic benefits that accrue from sustainable management of forest resources and, reduce emissions from deforestation and degradation and the impact of greenhouse gas emissions.