



Republic of Zambia

**Report  
of the  
Auditor General  
on  
Forest Monitoring in Zambia**



MAY 2012



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# FOREWORD

I have the honour to submit to Parliament my performance audit report on forest monitoring in Zambia, in accordance with the provisions of Article 121 of the Constitution of Zambia.

There is always a high demand for public services which include forestry management. It is therefore required that public institutions and managers within these institutions work towards meeting that demand. This can only be achieved if there is a proper orientation towards effectiveness, efficiency and economy. The performance audit process results in recommendations which initiate a process of renewal and change towards greater efficiency and effectiveness.

Effective performance audits can lead to better use of resources by public bodies and provide support to democratic governments by bringing about accountability, transparency, improved operations and better decision-making.

I would like to thank the staff of the Ministry of Mines and Natural Resources and its key players for the assistance offered to my staff during the period of the audit.

I trust that this report will meet the approval of Parliament and contribute to the cause of better public services delivery.

Yours sincerely,

**Ms. Anna O Chifungula**  
**AUDITOR GENERAL**

# EXECUTIVE SUMMARY

This audit report has revealed some weaknesses in the management of forests in Zambia. The audit was motivated by the realisation that forests contribute significantly and influence weather condition by regulating the availability of rains; and that they support biodiversity and ecological systems. This contribution is however at risk from increased human activities on forests.

The objective of the audit was to assess whether the Ministry of Mines and Natural Resources was monitoring the protection and harvesting of forests in an effective manner in order to reduce the risk of illegal activities in forests.

The audit was conducted at the Forestry Department in the Ministry of Mines and Natural Resources. The assessed area was the monitoring of forests covering 178 National and 307 Local forests representing 7,665,000 hectares of lands out of 75,312,000 hectares of the land in Zambia (Appendix 3). In the course of the audit, twelve (12) districts were visited in five (5) of the (9) provinces. The audit covered the period from 2008 to 2010.

The audit was based on document review, interviews and inspections.

## 1. Key findings.

- a) The Ministry of Mines and Natural Resources legislation (Forest Act of 1973) on forest management does not address the monitoring mechanisms, the types of forest licences, climate change, global warming and the role of forests in mitigating negative impacts.
- b) The Ministry had inadequate staffing and funding in Forestry Department.
- c) There were no forest management plans for the period under review.
- d) Apart from the Integrated Land Use Assessment conducted in 2008, there were no other updates of forest resources inventories carried out.
- e) The licensing system in existence was not in conformity with the Forest Act of 1973.
- f) The forests boundary lines had not been maintained for the period under review.
- g) There were no monitoring reports that could indicate that any monitoring was done at all.
- h) Out of the 487 forest reserves, 253 representing 52% had been encroached on.

## 2. Conclusions

It is clear from the findings above that the Ministry responsible for Environment and Natural Resources had weak monitoring mechanisms and had not been effectively monitoring the protection and harvesting of forests in order to reduce the risk of encroachment, illegal logging and vandalism, resulting in possible loss of biodiversity in Zambia.

## 3. Recommendations

**It is recommended that the Ministry responsible for managing forests should implement the following:**

- a) Initiate the enactment of a new law or strengthen the existing legislation/legal framework on sustainable forest management.
- b) Update current forest management plans in order to strengthen the sustainable management of forests.
- c) Strengthen the capacity of the Forest Department.
- d) Maintain the forest boundaries to distinguish between reserved and non-reserved areas to lessen the conflict that is likely to encourage encroachments and illegal activities in the forests.

# 1.0 INTRODUCTION

## a. Background

Forests are one of the most important natural resources of Zambia and cover about 60 per cent of the total land area of the country<sup>1</sup>. They are vital to human life and make our natural environment more habitable. They support local livelihoods and contribute to the national economy and also enrich the quality of people's lives in terms of cultural, recreational and aesthetic values.

Minimisation of adverse environmental impacts and practical implementation of forest operations is a basic principle of sustainable forest management. At all stages in forest management, be it wood harvesting, silvicultural operations, forest protection, harvesting of non-wood products or other activities, forest institutions safeguards the integrity of both the land and the forest through thoughtful planning and sensitive implementation of forestry operations and monitoring of forest activities.

However, Zambia's forests are facing considerable threats such as rapid conversion of forestland into agricultural land, over exploitation of valuable timber species, uncontrolled charcoal production and forest encroachment. Despite, the monitoring of activities in forests, the level of unsustainable forest activities like encroachment stood at 52% of the 487 forest reserves in the country as of December 2010<sup>2</sup>. The demand for land in the country continues to increase every year for various developmental programmes. In most cases, the demand has been targeted at protected forest areas.

To maintain the sustainability of forests, key stakeholders are expected to perform their roles effectively. The Ministry responsible for forests, as the key player in forest management, is responsible for developing and implementing policies, regulations, and appropriate institutional framework for forest programmes and operations and is responsible for management of forest resources in the country.

One important aspect of improving sustainable forest management is forest monitoring. Forest monitoring is increasingly important as the main tool to provide sound and relevant information on forest ecosystems to decision-makers and stakeholders. Monitoring the implementation of activities set out in an approved forest management plan is fundamental to sustainable forest management and forms the basis for transparent accountability of operational activities. This facilitates the control of current management activities and the evaluation of the operating performance of a forest management unit.

## i. Mandate of Forestry Department

The mandate of the Forestry Department is to promote sustainable management of forests in order to provide forest products and services that would benefit present and future generations. The operations of the Department are guided by the National Forestry Policy of 1998 and Forests Act Cap. 199 of the Laws of Zambia which provide for the establishment of National and Local Forests, conservation and protection of forests and trees and licensing and sale of forest produce.

The functions of the department include providing guidelines and supervision for the management, restoration or establishment of forests as well as facilitating and regulating forest industries, providing extension services and undertaking research.

## ii. Vision

To contribute to national sustainable development, through the promotion of the sustainable use of renewable natural resources and the promotion of sustainable livelihoods.

<sup>1</sup>Integrated Land – Use Assessment (ILUA) Report of 2008

<sup>2</sup>Forest Department

**iii. Mission Statement**

To ensure sustainable flow of wood and non-wood forest products and services while at the same time ensuring protection and maintenance of biodiversity for the benefit of the present and future generations through the active participation of all stake holders.

**iv. Goals**

In order to operationalise the mission statement, the following goals have been set for the Department:

- to put in place effective forest management systems and operating structures;
- to formulate and implement appropriate forest policies and programmes for sustainable management and use of forest resources;
- to promote sustainable, participatory management and use of forest such that all stakeholders, men, women and children take active and sustained interest towards effective conservation, production, management and utilisation of the nation's forest assets.

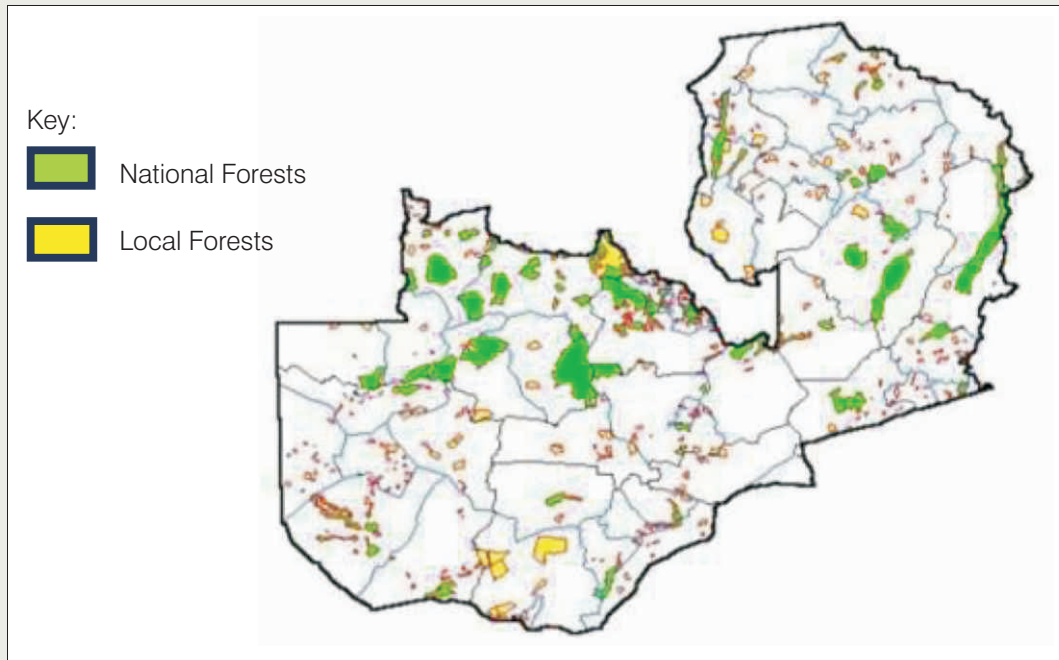
**v. Objectives**

The overall objective of the Forestry Department is to enhance the quantitative and qualitative contributions of the sector towards the nation's socio-economic development in a sustainable manner and the following are the specific policy objectives:

- To ensure the integrity, productivity and the development potential of the forest reserves;
- To ensure adequate protection of forests, by empowering local communities and promoting the development and use of forest and non-wood forest products;
- To promote investment in plantation forestry;
- To ensure sustainable management of forest ecosystems and biodiversity application through scientific and indigenous technical knowledge;
- To promote the growth of forest-based industries by ensuring raw material supply, facilitating capital formation and ensuring the enhancement of new investments in forest based industries and small scale enterprises;
- To ensure sustainable management of forest resources for wood fuel production;
- To develop research expertise, facilities and create an enabling environment to meet forestry research needs;
- To develop and broaden skills of forestry personnel and strengthen existing forestry training institutions; and,
- To regulate exploitation and-ensure efficient use of forest resources and products.

**vi. Extent of forest resources**

Out of Zambia's total land area of 75,312,000 hectares, approximately 50,007,168 hectares representing 66.4 % of the total area is covered by the forest. Out of the area covered by the forests, only 7,665,000 hectares representing 15.3% are managed by the Forestry Department. The area under the management of the Forestry Department is divided into 485 reserves classified as national or local forest reserves as shown in the map below and at Appendix 3.



**vii. Extent of Deforestation**

According to the Integrated Land-Use Assessment (ILUA) for 2005-2008, which compiled a wide array of statistical and spatial data on the land-use situation in Zambia, the national deforestation rate was 350,000 hectares per annum which was attributable primarily to agriculture expansion into the forest reserve.

**viii. Funding Details**

During the period under review, the budgeted amounts for forest management was K28,975,987,537 and amounts released and spent were K23,118,124,871 as detailed in the table below.

	"2008 K"	"2009 K"	"2010 K"	TOTAL
<b>Budgeted</b>	8,877,206,826	9,813,276,943	10,285,503,768	28,975,987,537
<b>Released and Spent</b>	8,520,820,868	5,852,915,182	8,744,388,821	23,118,124,871
<b>Variances</b>	<b>(356,385,958)</b>	<b>(3,960,361,761)</b>	<b>(1,541,114,947)</b>	<b>(5,857,862,666)</b>

Source: Yellow book and financial report

**b. Motivation for the Audit**

The audit on forest monitoring in Zambia was carried out because of the following reasons:

i) The importance and benefits of forests sustainability.

Forestry sustainability promotes ecological sustainability, social sustainability and economic sustainability. Ecological sustainability is the role of forest in maintaining biological diversity and the integrity of ecological processes and systems. Social sustainability relates to the forest's role in maintaining the human community that depends upon the forest. Economic sustainability relates to the benefits which the forest contributes to companies, communities and families that depend on them.

ii) Increase in the population.

The increase in the population has resulted in the growing demands for charcoal, firewood and land among others. This has resulted in an increase in activities such as illegal logging, charcoal burning and clearing of the forest for agricultural activities which has led to deforestation, biodiversity loss and land degradation.

iii) Public concern.

There has been general public outcry on degradation and deforestation of forests in the country.

**c. Audit Mandate and Standards**

The audit was conducted in accordance with the provisions of Article 121 of the Constitution of Zambia and the Public Finance Act No. 15 of 2004.

The audit was conducted in accordance with the International Organisation of Supreme Audit Institutions (INTOSAI) Standards.

**d. Audit Objective and Audit Questions**

The audit objective was to assess whether the Ministry of Mines and Natural Resources was monitoring the protection and harvesting of forests in an effective manner in order to reduce the risk of illegal logging and encroachments and was designed to answer the following questions:

- i) Is there a mechanism to effectively monitor the protection and harvesting of forest resources?
- ii) Is the Ministry responsible for monitoring, protection and harvesting of forest resources effective to prevent illegal logging and encroachments?

## 2.0 AUDIT SCOPE AND METHODOLOGY

### a) **Audit Scope**

The audit focused on the Forestry Department under the Ministry of Mines and Natural Resources.

The area of assessment was on the monitoring of forests covering 178 National and 307 Local forests representing 7,665,000 hectares of land (Appendix 3). In conducting the audit, five provinces namely Lusaka, Copperbelt, North-Western, Western and Luapula were visited in which twelve (12) districts were assessed namely; Lusaka, Mongu, Senanga, Sesheke, Ndola, Kitwe, Mufulira, Solwezi, Kasempa, Mansa, Samfya, and Mwense.

The five (5) provinces visited were selected based on assessment made from reports from the media and Forestry Department which indicated high levels of forest degradation and deforestation in those areas. The audit covered the period from 2008 to 2010.

### b) **Audit Methodology**

In conducting the audit, document review, site inspections and interviewing techniques were used to obtain an understanding of the Forestry Department activities in the provinces and districts visited.

#### i) **Document Review**

This involved the analysis of documents including the laws and regulations on forestry management, guidelines on forest management, operating standards, work plans, budgetary documents, Forest Act of 1973 and 1999, Environmental Policy, Forest Policy and Annual reports and evaluations conducted by external parties.

#### ii) **Interviews**

These involved key players in management and operations of the Forestry Department (i.e. Director, Chief Forest Officers, Principal Forest Officers, Provincial Forest Officers, Senior Forest Officer and District Officers).

#### iii) **Site Inspections**

Physical inspections were carried out in the sixteen (16) forests to assess the compliance of the operations on the ground with outlined operating standards.

## 3.0 AUDIT CRITERIA

**a) Legal, policy and institutional framework**

The Dry-Zone Africa Process on Criteria and Indicators for Sustainable Forest Management run by the UN requires existence of a comprehensive legislative, national forest policy and regulatory framework for SADC Countries.

**b) Forest Monitoring Capacity**

SADC Protocols require member states to ensure existence of institutional, human and financial capacity for effective implementation of sustainable forest management.

**c) Forest Management Plans**

According to FAO, a key criterion for the sustainable management of tropical forests is the existence and effective implementation of an approved management plan that has been prepared using up-to-date and accurate information.

**d) Forest Inventory Assessments**

SADC protocols require member states to undertake and regularly update the national assessment of forests.

**e) Forest Licensing**

The Forest Act of 1973, requires the existence of a forest licensing system.

**f) Forest Boundary Maintenance**

The FAO guidelines on forest boundaries require that forest boundaries are defined and that forest monitoring on the maintenance of existing boundaries is carried out at least annually.

**g) Forest Protection**

The Forest Act requires that monitoring of the forest should be carried out on a timely basis to ensure that felling, cutting, taking, collecting, and removal of any forest product is done with a valid licence or permit.

**h) Forest Harvesting**

FAO guidelines require comprehensive pre-harvest planning, appropriate monitoring and execution of operations as well as post-harvest evaluation.

**i) Agriculture and Community Activities in Forests**

FAO guidelines on monitoring of forest activities require that forest institutions undertake annual monitoring of rural community developments/agriculture in forest areas.

**j) Illegal Activities in Forests**

SADC protocol requires the Strengthening and implementation of national measures, which control human activities that threaten forests, including land and natural resource-use practices that conflict with the principles of sustainable forest management.

## 4.0 AUDIT FINDINGS

The Dry-Zone Africa Process on Criteria and Indicators for Sustainable Forest Management run by the UN requires existence of a comprehensive legislative, national forest policy and regulatory framework for SADC Countries. In this regard, the Ministry of Mines and Natural Resources is required to ensure that there is a comprehensive legislation, national forest policy and regulatory framework.

However, investigations revealed that the forest policy and regulatory framework though in existence, was not comprehensive in that the Forest Act of 1973 and policy on forest management did not address the monitoring mechanism, types of forest licences and a number of challenges and emerging issues such as climatic change, global warming and the role of forests in mitigating negative impacts. In addition, the Forests Act No. 39 of 1999 was not implemented during the period under review.

The failure to implement the Forest Act of 1999 had an effect on the effective monitoring of forests.

### Management Response

The Ministry stated that the cause of the delay in the implementation of the Act was due to the huge financial implications that the creation of the Zambia Forestry Commission would have had on the Treasury as the creation of the Zambia Forestry Commission would have meant separation packages for both ZAFFICO and Forestry Department employees.

### a) Forests Monitoring

The SADC Protocols require member states to ensure existence of institutional, human and financial capacity for effective implementation of sustainable forest management.

However, according to the Forest Annual report of 2008, out of the forest management staff establishment of 1,174, only 652 positions, representing 55.5%, were filled. In addition, the Ministry had not adequately funded the forest activities in provincial and district offices.

In this respect, investigations revealed that in 2009 and 2010 collections amounting to K2,390,621,909 (K1,366,329,915 in 2009 and K1,024,291,994 in 2010) were credited to the Appropriation in-Aid account. However, no disbursements were made to the Provincial and District Forest Offices in 2009 and only K264,464,014 was disbursed to Provincial and District Offices in 2010.

Consequently, the failure by the Ministry to disburse funds to the Provincial and District Offices had a negative effect on their operations in that critical activities such as forest patrols, monitoring of harvesting activities by licencees as well as boundary maintenance were not effectively carried out.

### Management Response

The Ministry stated that the training offered to serving officers within the Forestry Department, both at tertiary and university levels included knowledge and skills required to undertake sustainable forest management.

As such, given the availability of adequate financial and material resources, the officers are capable of carrying out the said task with due diligence.

### b) Forest Management Plans

The Ministry of Mines and Natural Resources is supposed to develop forest management plans for providing direction and strategies for management of forests.

During the period under review, the Forestry Department did not have the forest management plans designed to provide continuity in managerial operations over time, to formalise administrative arrangements and to provide a basis for monitoring forest activities.

This has resulted in lack of strategic focus in the sustainable management of forest and consequently, deforestation and degradation of forest has continued.

**Management Response**

Management pointed out that the non-revision of the forest management plans was due to inadequate financial and human resources following the restructuring of the Forestry Department in 1997.

They however added that with the assistance of co-operating partners, the Ministry had embarked on the Integrated Land Use Assessment (ILUA) phase two project whose main objective was to carry out an intensive forest inventory countrywide as an initial stage for the preparation of forest management plans.

**c) Forest Boundary Maintenance**

According to FAO guidelines, every country is required to define forest boundaries and carry out monitoring and maintenance of existing boundaries.

However, it was revealed that, apart from Likonge Forest in Mongu and Ndola National Forests, which were demarcated by a road and beckons respectively, as shown in the pictures below, all other forests were not defined by any boundary marks.



LIKONGE FOREST IN MONGU DEFINED BY ROAD



NDOLA NATIONAL FOREST BOUNDARY DEFINED BY BECKON

The lack of boundary marks poses a risk of encroachments, illegal logging, harvesting among others. In addition, forest officers may experience difficulties in establishing the extent of the protected forests thereby making it difficult to monitor encroachments and other activities.

**Management Response**

The Ministry stated that they had inadequate field staff and that funding was erratic.

**d) Forest Protection**

The Ministry is responsible for monitoring and protection of forest reserves. This should be carried out on a timely basis, at least annually to ensure that, felling, taking, collecting and removal of any forest product is done under valid licences or permits.

However, it was revealed that the Ministry has not been able to mobilise human, financial and other resources. This had impacted negatively on forests management in that the forest reserves are at risk of illegal logging and encroachments.

In addition, there was no evidence to show that monitoring was being carried out as no reports were produced to support the monitoring of forest operations.

This inadequate monitoring of forest reserves for protection had led to illegal conversion of forests to other land uses, leading to losses of forest resources.

**Management Response**

The Ministry stated that Cabinet Office had been requested to restructure the Forestry department with a view to strengthen the institution at both district and camp level for effective forest protection.

**e) Forest Harvesting**

The Ministry is supposed to undertake the supervision and monitoring process to ensure that information about harvesting operations and actual cut is accurate.

However, there was no documentation produced to show that regular monitoring of harvesting operations were being undertaken by the concessioners' holders to ensure that the information about harvesting operations and actual cuts were accurate.

The irregular monitoring of harvesting activities had contributed to over harvesting of forest resources.

**Management Response**

The Ministry stated that the restructuring of the department and enactment of the Forest Bill of 2011 would address the concerns raised.

**f) Agriculture and Community Activities in Forests**

The Ministry is supposed to undertake monitoring of rural agricultural developments by communities in forest areas at least annually.

Physical inspections of selected forests in districts revealed that there were encroachments of the forests by local communities in reserved forests, who were carrying out agricultural activities as shown in the pictures below.

The encroachments have resulted in forest degradation.



**Management Response**

The Ministry responded that the review of the National Forest Policy, Legislation and restructuring of the Forestry Department will address the observations.

They also stated that unsustainable agriculture practice had continued to be the main driver of deforestation and degradation in the country. Until the communities start appreciating the benefits of conservation farming and other agro forestry technologies, the threat of deforestation and degradation will be difficult to reduce.

In this regard, the Ministry of Agriculture and Co-operatives and Ministry of Mines and Natural Resources had strengthened their collaboration in extension services to ensure sustainable agricultural practices are used in food production.

**g) Other Illegal Activities in Forests**

The audit review also established that government and other agencies had carried out developmental activities in forest reserves without following laid down procedures as follows:

- i) The Kipushi Border Post has been constructed in the Kipushi National Forest.
- ii) The Ministry of Community Development has constructed a structure in the Solwezi National Forest shown in the picture below.



iii) The Levy Mwanawasa Stadium has been constructed in the Monkey Fountain Zoo which is part of the Ndola National Forest No. 38.



iv) There were illegal logging and mining of manganese in the Samfya and Chimimbi Forest respectively (See pictures below):



MINING EQUIPMENT FOUND IN CHIMIMBI PROTECTED FOREST

- v) The Ndola City Council allocated parts of the Ndola National Forest No.38 and Ndola East Forest Reserve No. 192, to individuals without authorisation by the Ministry of Mines and Natural Resources and the ministry responsible for lands.



PART OF NDOLA NATIONAL FOREST ALLOCATED BY COUNCIL

- vi) A road has been constructed through the Ichimpe National Forest No. F8 in Kitwe illegally, See below:



A ROAD ILLEGALLY CONSTRUCTED IN THE FOREST RESERVE IN ICHIMPE FOREST NO. F8.

The above developments carried out by the government and the Ndola City Council in forest reserves have been carried out without de-gazetting such areas to facilitate such developments as required by the law.

**Management Response**

The Ministry agreed to the observations and stated that the process of excision of Kipushi , Solwezi and Ndola National Forest Reserves have reached an advanced stage. On the other hand, Section 68 of the Forests Act No. 39 of 1973 permits a holder of a prospecting, exploration or mining licence to carry out such activities which would otherwise be illegal in forest reserves.

However, the Ministry will charge the mining firm for all the trees destroyed during their operations.

## 5.0 CONCLUSIONS

The effective monitoring and implementation of forest activities is fundamental to sustainable forest management. It forms the basis for transparent accountability of forest activities. It is however clear that the Ministry of Mines and Natural Resources has weak monitoring mechanisms and has not been effectively monitoring the protection and harvesting of forests in order to reduce the risk of illegal logging.

This inability to protect Forest Reserves has led to the abuse and vandalism of the forest inventory leading to biodiversity loss, among others. Encroachment, illegal logging and deforestation are common and are becoming increasingly challenging in many forests in Zambia. These illegal activities can lead to huge tax losses to government as well as negative long-term economic impacts caused by environmental degradation. Illegal activities on forests may also jeopardize the livelihoods of rural communities engaged in forestry by exposing them to unfair competition and depleting the resources on which they depend.

Some of the reasons attributed to this include lack of an appropriate legal framework, inadequate national land use planning for agriculture and other land uses. Involvement of stakeholders in forest management programs especially local communities has been non-existent. National energy demands, combined with poverty, have exerted pressure on Zambia's forests. In addition, erratic resource in-flow has also contributed to the problem.

The enforcement of appropriate laws and regulations, and policing of the forest estate has not existed since 1998. This has resulted in a noticeable failure in the implementation of forest laws to prevent over harvesting of forest products. Sustainable forest management cannot be achieved in the absence of a firm commitment and action to effectively protect a forest management unit.

The Ministry cannot protect the reserves due to resource constraints such as human and financial resources including transport. This has resulted in a reduction in forest resources through degradation or deforestation. The forest coverage still remaining is threatened by the high demand for land, wood and wood products.

The legal framework is weak in that the Forest Act of 1999 which contains the amendments to the Forest Act of 1973 has not been implemented. In addition, there are no forestry management plans in place. As a consequence, there is no effective monitoring and evaluation of forest activities..

Defining and subsequent surveying of boundaries are essential steps in mapping a permanent forest estate. They contribute towards achieving effective protection of a forest from degradation or loss. However, the Ministry has not carried out regular boundary definitions and maintenance.

The illegal forest activities, conversion of forest land for economic developments without following the law through degazation is still rampant.

Unless these problems as highlighted above are addressed, investments to promote sustainable forest management will remain ineffective as it has been established that the level of unsustainable forest activities stands at 52% of the 487 forest reserves in the countrywide.

## 6.0 RECOMMENDATIONS

It is recommended that the Ministry implements the following measures:

**a) Legal, policy and Institutional Framework**

Enact a law or strengthen the existing legislative/legal framework on sustainable forest management for effective implementation and co-ordination of forest management. This framework must provide for the implementation of sustainable forest management under prevailing socio-economic conditions.

**b) Forest Management Plans**

Develop forest management plans and strategies in order to strengthen the sustainable management of forests.

**c) Forest Monitoring**

- i) Develop or strengthen the monitoring mechanism for the implementation of sustainable forest management.
- ii) Strengthen forest management institutions or structures, mechanisms and capacities at all levels, in particular at the district level that can systematically contribute to sustainable forest management.
- iii) Develop and implement strategies to address the financial and human resources constraints at all levels to ensure effective monitoring of forests and forest boundaries.
- iv) Strengthen the monitoring mechanism for the harvesting operations and limit issuance of licences in line with forest inventory available.

**d) Forest Boundary Maintenance**

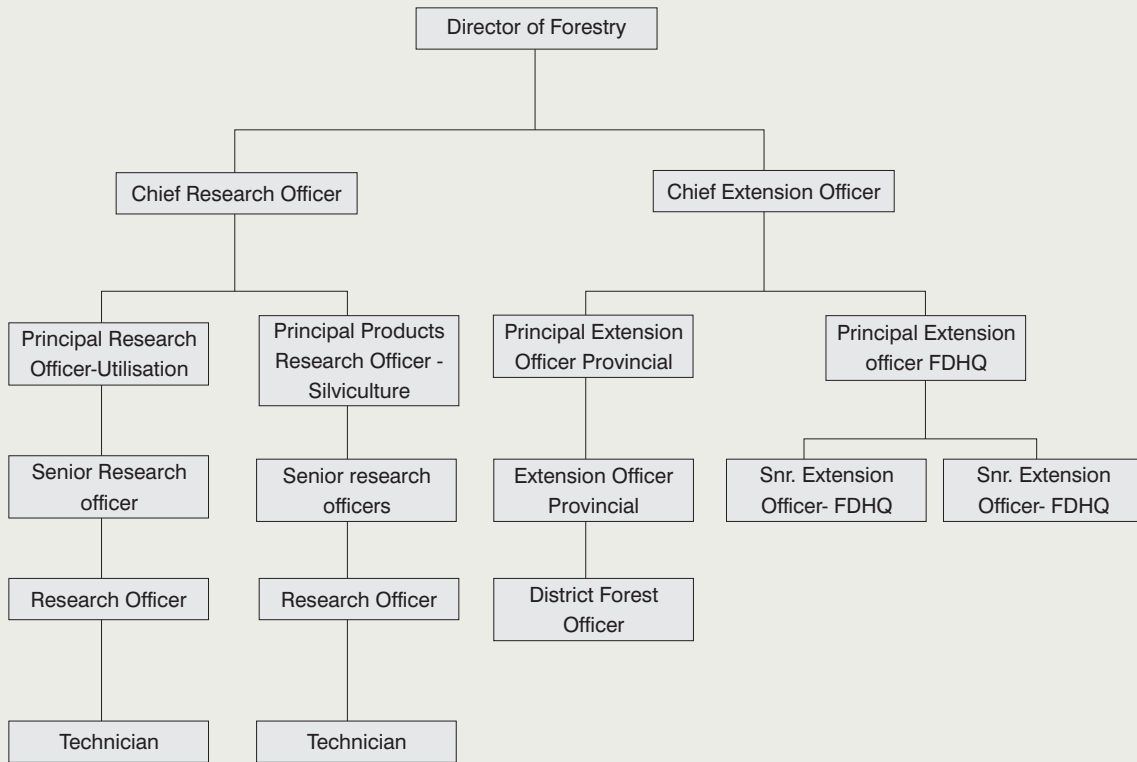
The forest boundaries should be cleared or marked so that there is a clear distinction between reserved and non-reserved areas to reduce the risk of encroachment.

**e) Forest Protection**

Increase the operational capacity of the forest administration to detect and suppress forest crimes by fully staffing the existing structure. In this way it will be possible to assess the adequacy and appropriateness of the existing structure.

The implementation of the above recommendations would contribute positively to the monitoring of forests in Zambia

## 12.0 APPENDIX 1 - ORGANISATION STRUCTURE



Source: Forest Department

### 13.0 APPENDIX 2 - STAFF AND LABOUR STRENGTH

Province	Professional	Technical	Admin	TTWs	CDEs	Watchmen	G/workers	Total
Central	1	48	4	1	18	1	7	80
Copperbelt	3	49	2	4	5	5	16	84
Eastern	2	37	4	2	35	2	4	86
Forest HQ								
Research								
Luapula	1	24	1	4	28	2	9	69
Lusaka	3	32	3	1	2	1	33	75
Northern	2	31	4	1	3	1	15	57
North/Western	1	30	3	2	30	3	0	66
Western	2	30	3	3	9	0	45	91
Southern	1	25	1	1	7	2	7	44
Filled Positions	16	306	25	19	137	17	136	656
Establishment								1174
Variance								518

Source: Forest Department Annual Report 2008

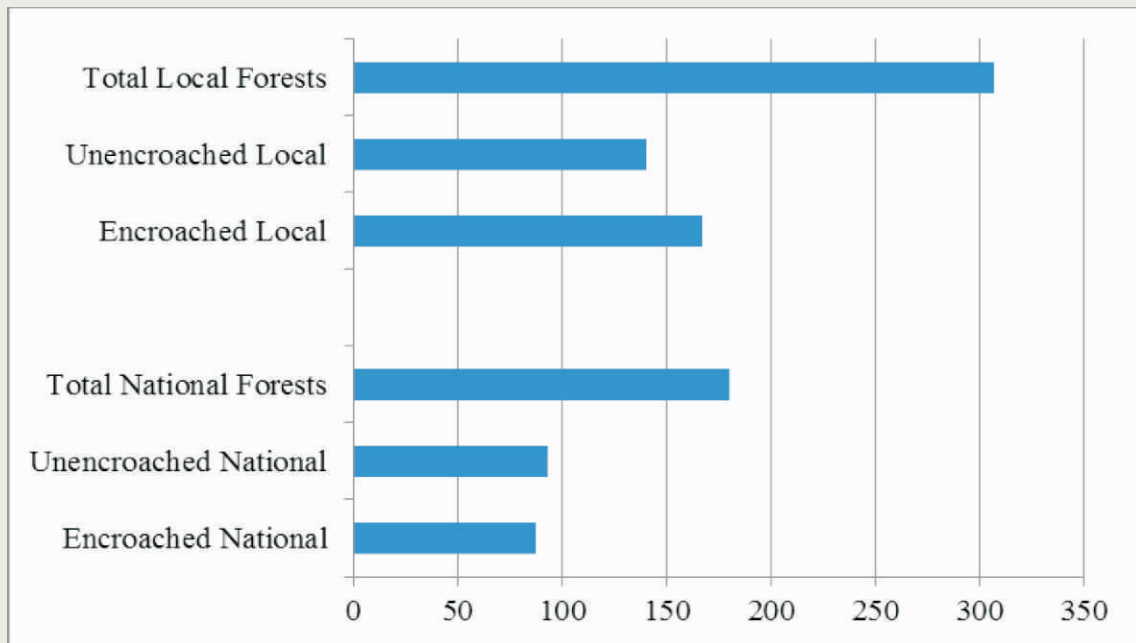
#### 14.0 APPENDIX 3 - ESTIMATED AREA OF FOREST ESTATES BY PROVINCE

Province	Total Land Area (Ha) '000'	National Forests No	(Ha)'000'	Local Forests No	(Ha)'000'	Total Forest Estate No	(Ha)'000'	%
Central	9,435	15	371	25	223	40	594	6.3
Copperbelt	3,133	34	423	8	57	42	481	15.4
Lusaka	2,190	1	0.2	6	27	7	27	1.2
Southern	8,582	9	211	28	523	37	734	8.6
Luapula	5,056	9	213	18	230	27	442	8.7
Eastern	6,911	15	638	62	163	77	801	11.6
Northern	14,783	23	802	47	330	70	1,131	7.7
North-Western	12,583	35	2,159	27	487	62	2,646	21
Western	12,639	37	461	86	347	123	808	6.4
Total	75,312	178	5,278	307	2,387	485	7,665	10.2

Source: Forest Department Annual Report 2008

### 15.0 APPENDIX 4 - ENCROACHED FORESTS

Province	National	Local	National	Local
Central	15	24	11	11
Copperbelt	37	10	36	10
Eastern	15	63	6	48
Luapula	8	18	6	14
Lusaka	1	7	1	7
Northern	23	48	9	25
N/Western	35	25	6	21
Southern	9	28	4	10
Western	37	84	8	23
<b>TOTAL</b>	<b>180</b>	<b>307</b>	<b>87</b>	<b>167</b>



Source: Forest Department

## 16.0 APPENDIX 5 - REVENUE COLLECTION FOR 2008, AND 2010

<b>Province</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>Projected 2011</b>
Copperbelt	415,982,816	517,273,687	380,757,517	385,000,000.00
Lusaka	398,603,222	404,446,390	383,856,188	385,000,000.00
Southern	603,615,314	699,422,839	329,120,183	315,000,000.00
Western	1,857,131,600	1,385,614,440	1,546,751,300	1,540,000,000.00
Northern	108,981,859	156,468,873	66,099,500	140,000,000.00
Luapula	47,303,072	43,488,330	58,669,050	70,000,000.00
North Western	176,876,952	244,545,284	140,782,472	140,000,000.00
Eastern	247,453,789	188,425,448	106,158,610	105,000,000.00
Central	436,972,300	495,138,576	482,927,040	490,000,000.00
<b>TOTALS</b>	<b>4,292,920,924</b>	<b>4,134,823,867</b>	<b>3,495,121,860</b>	<b>3,500,000,000</b>

**Source:** Forest Department





Republic of Zambia