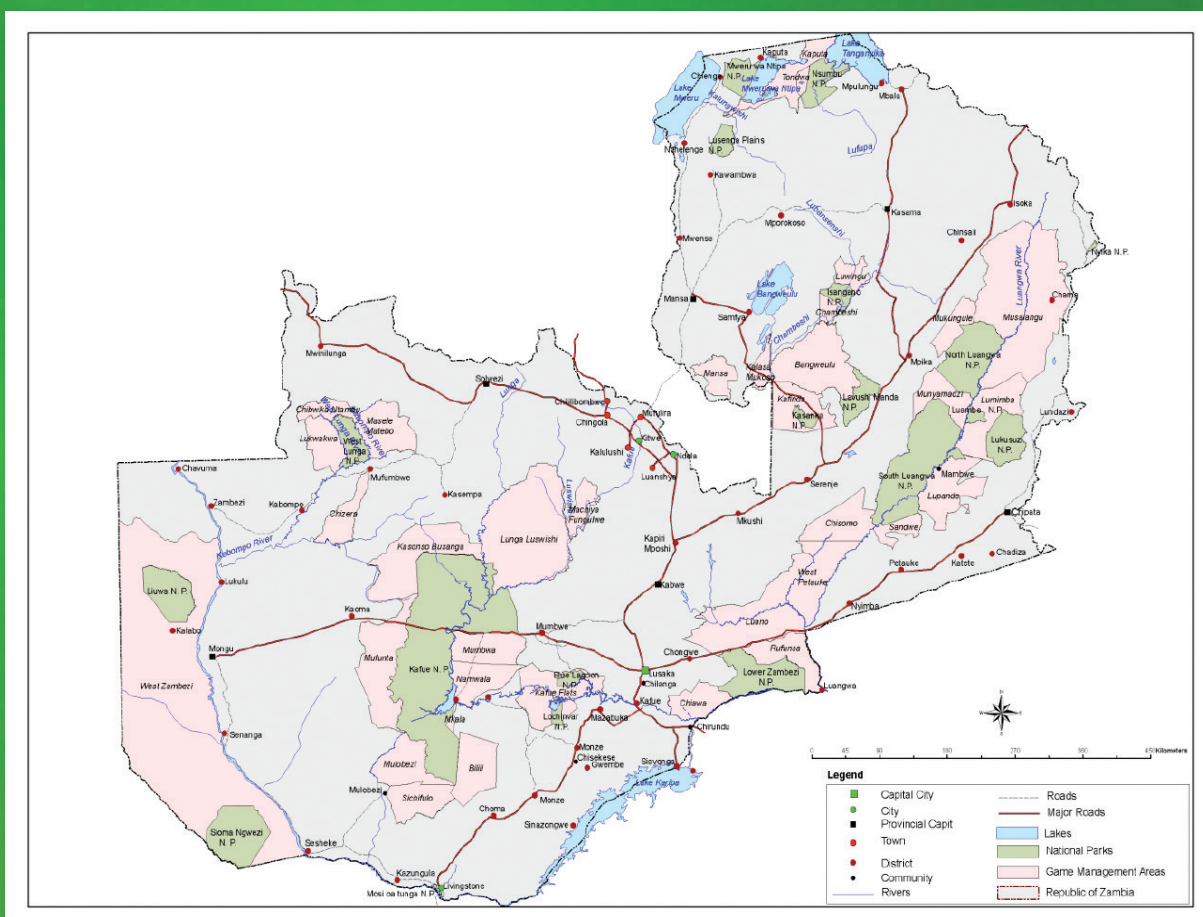




# REPORT OF THE AUDITOR GENERAL

## on the Management of Wildlife



July 2014



# Foreword

I have the honour to submit to Parliament my performance audit report on the Management of Wildlife, in accordance with the provisions of Article 121 of the Constitution of Zambia and the Public Finance Act No. 15 of 2004.

The performance audit whose results are contained in this report was carried out to assess the effectiveness with which ZAWA under the Ministry of Tourism, Environment and Natural Resources conducted its activities to maintain and sustain bio-diversity, reverse the decline in wildlife, improve livelihood of the communities in game management areas and increase revenue generation.

I would like to thank the staff in the Ministry of Tourism, Environment and Natural Resources, the Zambia Wildlife Authority and the Community Boards for their cooperation during the audit process.

Dr. Anna O Chifungula

**AUDITOR GENERAL**

## LIST OF ACRONYMS/ABBREVIATIONS

<b>AMP</b>	-	Area Management Plans
<b>AMU</b>	-	Area Management Unit
<b>CBNRM</b>	-	Community Based Natural Resource Management
<b>CRB</b>	-	Community Resource Board
<b>EIA</b>	-	Environment Impact Assessment
<b>EPB</b>	-	Environment Project Brief
<b>EPPCA</b>	-	Environmental Protection and Pollution Control Act
<b>GEF</b>	-	Global Environmental Fund
<b>GMA</b>	-	Game Management Area
<b>IDA</b>	-	International Development Agency
<b>INTOSAI</b>	-	International Organization of Supreme Audit Institutions
<b>MOU</b>	-	Memorandum of Understanding
<b>MTENR</b>	-	Ministry of Tourism, Environment and Natural Resources
<b>NAPSA</b>	-	National Pensions Scheme Authority
<b>NHCC</b>	-	National Heritage and Conservation Commission
<b>NP</b>	-	National Parks
<b>NPWS</b>	-	National Parks and Wildlife Services
<b>RNG</b>	-	Royal Norwegian Government
<b>SI</b>	-	Statutory Instrument
<b>TCA</b>	-	Tourism Concession Agreement
<b>VAG</b>	-	Village Action Groups
<b>ZAWA</b>	-	Zambia Wildlife Authority
<b>ZEMA</b>	-	Zambia Environment Management Agency
<b>ZRA</b>	-	Zambia Revenue Authority

# Table of Contents

<b>EXECUTIVE SUMMARY .....</b>	<b>iv</b>
<b>1. INTRODUCTION .....</b>	<b>1</b>
<b>2. AUDIT OBJECTIVE AND AUDIT QUESTIONS .....</b>	<b>3</b>
<b>3. AUDIT SCOPE , LIMITATIONS AND DELIMITATIONS .....</b>	<b>4</b>
<b>4. AUDIT METHODOLOGY .....</b>	<b>5</b>
<b>5. AUDIT CRITERIA .....</b>	<b>7</b>
<b>6. AUDIT FINDINGS .....</b>	<b>9</b>
<b>7. CONCLUSIONS .....</b>	<b>12</b>
<b>8. RECOMMENDATIONS .....</b>	<b>14</b>

## EXECUTIVE SUMMARY

The objective of the audit was to assess whether the Zambia Wildlife Authority (ZAWA) was managing wildlife effectively. The audit was conducted on the ZAWA and the area of assessment was on the decline of wildlife, maintenance of bio diversity, increases in revenue generation and improvement in the livelihood of communities living in the Game Management Areas (GMA). The audit covered nine (9) National Parks, fourteen (14) Community Resource Boards (CRB); various tour operators and projects operating in the parks and GMAs.

The audit was based on document review, observations, inquiries and physical inspections. In particular, the following were observed:

- a.** Animal surveys were not regularly done and the authority has no appropriate and adequate equipment and other resources for conducting proper animal surveys.
- b.** There was no information regarding levels of sustainability and the birth/outtake ratio per species provided for audit scrutiny. As a result, the regional offices could not effectively carry out monitoring activities as they lacked documentation regarding animal and bird quotas.
- c.** Various activities such as mining and settlements within the national parks and GMAs resulted in undesirable activities such as poaching, illegal farming, pollution, industrial noise, unauthorised bush fires, and the introduction of exotic plants and domestic animals. These factors cause depletion of wildlife and loss of the eco system.
- d.** A number of exploration/mining activities are being conducted without proof of them being legal, especially in Kafue and Lukusuzi National Parks. In addition, disused mines were not being rehabilitated resulting in destruction of eco system.
- e.** ZAWA failed to provide proof of Environmental Impact Assessment having been conducted by tour operators thereby posing a risk of carrying out undesirable activities that may contribute to loss of bio diversity.
- f.** ZAWA and the CRBs visited did not provided proof of Area Management Plans having been prepared, as a result the activities of the boards such as plans to prevent loss of biodiversity, encroachment and community development activities could not be accessed.
- g.** ZAWA had failed to increase the revenue as it only managed to raise a total of K53.4 billion in 2009 and K51.4 billion in 2010 as compared to the targeted revenue of K40 billion in 2009 and K100 billion by the year 2010 according to the Strategic Plan for the year 2008 – 2012.

From the above summary, it is evident that ZAWA has not done enough to reduce the decline in wildlife, maintenance of the bio-diversity, monitoring and sensitization activities in the GMAs and also to increase its revenue generation. It is therefore imperative that ZAWA should put up various effective mechanisms to address the above shortcomings and be able to be sustainable in its management of wildlife.

In this regard, the following recommendations are made:

**a. Livelihood of the communities in Game Management Areas**

ZAWA should develop and implement a robust public awareness programme for the local people in GMAs and the general public at large.

**b. High Threats and Pressure on Biodiversity and Wildlife**

- i. An updated wildlife inventory is essential for providing the most reliable data for setting hunting quota hence ZAWA should update information on wildlife resources, socio-economy and land-use for planning and sustainable management of the wildlife resources;
- ii. Develop a strategy aimed at addressing the problem of illegal activities in protected areas which is holistic to include a wide range of policy, legal, institutional and technical options;
- iii. ZAWA should ensure that EIA reports are prepared and approved before operators proceed with developments;
- iv. ZAWA should develop park management plans in areas where these are not in place in order to strengthen the sustainable management of wildlife.

## 2. INTRODUCTION

### a. Background

The Zambia Wildlife Authority (ZAWA) was established in 1998 under the Zambia Wildlife Act, No. 12 of 1998. Prior to the establishment of the authority, management of wildlife was under the Department of National Parks and Wildlife Service (NPWS) in the Ministry of Tourism.

According to the Act and ZAWA's Strategic Plan (2008 – 2012); ZAWA should achieve excellence in wildlife estate management by developing innovative approaches and partnership based on best practice.

In addition, ZAWA should contribute to the preservation of the biological and social economic value of Zambia's natural heritage, ecosystems and biodiversity for future generations by the careful conservation of Zambia's present wildlife resources.

The following are ZAWA's specific policy objectives as stated in the Act:

- i. To improve the quality of life among communities in wildlife estates and maintenance of sustainable biodiversity in national parks and game management areas;
- ii. To reverse the decline in wildlife resources;
- iii. To improve wildlife resource management to a level which will secure a sustainable flow of benefits from resources;
- iv. To considerably improve the wildlife resource base investment in co-operation with the private sector and local communities.

ZAWA manages a total of twenty (20) National Parks and thirty-six (36) Game Management Areas (GMAs). A total of seventy-four (74) Community Resource Boards (CRBs) have so far been established within the proximity of the National Parks. GMAs were established principally to serve as buffer zone around the National Parks and it is in these areas where the Community Based Natural Resource Management Programmes were established with the view to co-manage the wildlife resources. Thus, GMAs are not only important reservoirs of the wildlife resources but also form a cornerstone in the implementation of the various strategies in wildlife management.

In return for their participation in wildlife management, communities through their respective CRBs receive a share of revenues that accrue from wildlife utilisation. In June 2002, the communities and ZAWA agreed that communities would receive 45% while the Chiefs who are Patrons would receive 5% from revenues generated from wildlife utilisation.



## b. Sources of Funds

During the years 2008, 2009, and 2010 ZAWA collected a total amount of K42,865,000,000, K53,359,000,000 and K51,444,000,000 respectively as revenue through the issuance of hunting licences, park entry fees, lease fees from various Area Management Units (AMU); and received total amounts of K29,082,419,116, K12,615,413,188 and K16,131,754,605 for the years 2008, 2009 and 2010 respectively from GRZ and cooperating partners as tabulated below:

**Table 1: Sources of funding 2008 to 2010**

Source of the Funding	2008 Amount K	2009 Amount K	2010 Amount K
Revenue raised	42,865,000,000	53,359,000,000	51,444,000,000
Govt Grants	5,863,000,000	4,506,000,000	4,730,541,335
World Bank	15,165,419,117	6,232,374,417	1,864,192,746
Royal Norwegian Govt	7,548,000,000	836,000,000	8,247,461,929
Other Cooperating Partners	354,000,000	832,000,000	1,289,558,596
Other income to the Area Management Unit (AMU)	152,000,000	209,000,000	-
<b>Total</b>	<b>71,947,419,117</b>	<b>65,974,374,417</b>	<b>67,575,754,606</b>

## c. Motivation for the Audit

ZAWA is supposed to have a Board of Directors appointed by the Minister.

During the pre-study, several indicators of insufficient management of wildlife resources were uncovered and these included;

- i. Insufficient information on bio-diversity in the various parks, GMAs and irregular surveys to determine the animal populations which makes it difficult to establish how the hunting quotas are estimated.
- ii. Encroachment and illegal settlements in the National Park/GMAs resulting in decline in wildlife resources.
- iii. Illegal mining activities in some National Parks and GMAs.
- iv. Insufficient follow up of tour operators and outfitters resulting in failure to increase the revenue collected annually.
- v. In 2010, ZAWA establishment was 2,230 positions, however only 1,701 positions were filled, resulting in vacancies of 529 posts

### 3. AUDIT OBJECTIVE AND AUDIT QUESTIONS

To assess the effectiveness with which ZAWA under the Ministry of Tourism, Environment and Natural Resources conducted its activities to maintain and sustain bio-diversity, reverse the decline in wildlife, improve livelihood of the communities in GMAs and increase revenue generation.

Based on the audit objective, the following audit questions were formulated:

- a.** To what extent had ZAWA ensured sustainability of bio-diversity and prevented the decline of wildlife population?
- b.** What measures has the Ministry of Tourism, Environment and Natural Resources put in place to ensure that ZAWA conducts its overall responsibilities to attain laid down objectives in the management of wildlife?
- c.** To what extent has the livelihood of the communities in GMAs improved since the inception of ZAWA?
- d.** Does ZAWA have the adequate tools and capability for revenue generation to meet its revenue targets?
- e.** To what extent has the investment in cooperation with private sector and local communities increased the wildlife resource base.

## 4. AUDIT SCOPE AND LIMITATIONS

The audit covered the period 2008 to 2010 and was conducted between June 2011 and April 2012. The audit object was ZAWA under the Ministry of Tourism, Environment and Natural Resources. Ten (10) National Parks (NPs) were selected covering an area of 45,311 Km<sup>2</sup> out of a total of 20 NPs with a total estimated area of 63,632 Km<sup>2</sup>. The selection of parks was based on identified risks of encroachments, illegal mining activities, human/wildlife conflicts, depleted NPs, and highly stocked NPs. Some of the National Parks such as South Luangwa and Kafue had received donor aid and it was important to establish the impact of such financial support.

## 5. AUDIT METHODOLOGY

Methods of data collection included document review, interviews and physical inspections as follows:

### a. Document Review

The following documents were reviewed:

- The Zambia Wildlife Act No. 12 of 1998 and Strategic Plan- 2008 – 2012;
- Animal survey reports 1994 - 2010;
- Block Tourism Concessions in National Park and Procedures and Guidelines for Allocating Sites in Zambia's Wildlife Protected Areas;
- Tourism Concession Agreements and MOUs signed with cooperating partners and tour operators/outfitters;
- Work plans, budgets, annual reports, internal audit reports, chart of fees and minutes of board meetings for the year 2008 to 2010;
- Guidelines on the collections of revenues and utilisation of the funds.

### b. Interviews

Interviews were conducted with senior management at the headquarters, regional managers, area wardens, ecologists, some tour operators and project managers for various projects through a structured questionnaire and verbal interaction. The interviews were conducted in order to assess the effectiveness of ZAWA in carrying out supervision and monitoring in the areas under their jurisdiction.

The interviews were conducted with four (4) directors at head office, three (3) regional managers, eight (8) area wardens, six (6) park rangers, two (2) ecologists and (xx) accounting staff to obtain an indication of the extent of illegal settlements, mining activities, loss of biodiversity and how well ZAWA was carrying out its functions of reducing the decline of wildlife population.

### c. Physical Inspections

Physical site inspections were carried out to verify the information obtained through questionnaires, interviews and document reviews. The following National Parks and community resource boards were visited: The NPs and CRBs that were physically visited are listed below:

**Table 2: NPs and CRBs visited**

National Parks (NPs)	Community Resource Boards (CRB)	District
Lochnvir	Hamusonde	Monze
South Luangwa	Nsefu	Mfuwe
Lukusuzi	CRBs not visited	Lundazi
Lower Zambezi	Mpanshya, Shikabeta, Chiawa	Chongwe
	Mphuka and Mburuma	Luangwa
North Luangwa	Kopa, Chiundaponde and Mukungule	Mpika
Kasanka	CRBs not visited	Mpika
LavushiManda	CRBs not visited	Mpika
Kafue	Kabulwebulwe, Mulendema and Chibuluma	Mumbwa
Lusaka	None in place	Lusaka
Mosi-o-Tunya	None in place	Livingstone

In addition, the following operators and outfitters were visited; David Livingstone Lodge, Sussi and Chuma Lodge, Safari Par Excellence, Melrose Farm (Thorn Tree Lodge, Lion Encounters and Elephant Back Riders), African Queen (boat cruise), Toka Leya, Maramba River Lodge, Gwembe Crocodile Farm, Batoka Sky, Chamilandu Bush camp, Nsolo Bush Camp, Chichele, Bilimangwe, Hippo Lodge, Chunga Safaries, Mayukuyuku Bush Camp, Fusanga Bush Camp, Kasanka Trust Lodge, Sun International Hotel and Taonga Safaris.

## 6. AUDIT CRITERIA

### a. Sustainability of bio diversity and prevention of the decline of wildlife population.

Zambia is a signatory to the United Nations Convention on Biological Diversity which was signed on 28<sup>th</sup> May, 1993. The Convention stipulates that the Contracting Partners should develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity. Governments should identify and monitor important components of biological diversity and also maintain and organise data derived from identification and monitoring activities.

In line with the requirements of the UN convention, the National Parks and Wildlife Act of 1991 was repealed and the Zambia Wildlife Act No. 12 of 1998 enacted. The Act resulted in the establishment of Zambia Wildlife Authority which was mandated to establish, control and manage National Parks and for the conservation and enhancement of wildlife eco-systems and bio-diversity. The Act also gives provision to promote opportunities for the equitable and sustainable use of special qualities of National Parks.

In particular:

- i. Section (5) of the Wildlife Act, ZAWA was mandated to preserve the bio-diversity on which human adaptability depends; to manage national parks, promote and develop wildlife as a productive, profitable and environmentally friendly land use option of particular significance to rural landholders.
- ii. According to Section 5 (c) of the Zambia Wildlife Act and Strategic Plan 2008 – 2012, ZAWA was to ensure that there was a reduction in the human/wildlife conflict.
- iii. Section (6) of the Zambia Wildlife Act and Strategic Plan, ZAWA was supposed to involve local communities in the management of GMAs by training and sensitizing local communities in wildlife management; and also work closely with the communities around the protected areas to win them over for conservation.
- iv. Section (13) of the Zambia Wildlife Act, ZAWA was allowed to grant mining rights in National Parks or GMA but not without an environmental Impact Assessment (EIA) which should take into account the need to conserve and protect the bio-diversity provided for restriction on entry into or residence in National Park.
- v. From 2009, ZAWA was to provide for the licensing of quotas and a well documented, transparent hunting quota system.
- vi. Animal surveys were to be carried out to establish the status of the animal populations.
- vii. According to the Strategic Plan (2008 – 2012), ZAWA was to reverse the decline of wildlife and attain 10% of depleted GMAs into prime, secondary or specialized GMAs by 2010 and increase areas under scouted protection by 50 percent.
- viii. An EIA should be prepared and approved in accordance with the Environmental Protection and Pollution Control Act (EPPCA of 1997), before any operator proceeds with development.

- ix.** ZAWA in consultation with the CRBs should develop management plans to provide a framework for management operations within each protected area. This provides mechanisms for the protection of wildlife and bio-diversity and defines acceptable uses within the protected areas.

**b. Improvement of livelihood of the communities in GMAs.**

According to the provisions of the Zambia Wildlife Act, Strategic Plan for the years 2008 to 2012 and Community Based Natural Resource Management Guidelines:

- i.** A fund from the revenues realised from wildlife utilisation to enhance economic and social well-being of the community within the GMAs was to be established;
- ii.** The revenues realised from hunting and concession fees should be shared as follows: Animal fees 50% to ZAWA, 45% to CRBs, 5% to local chiefs and concession fees 80% to ZAWA, 15% to CRBs, 5% to local chiefs;
- iii.** Disbursements by ZAWA to the CRBs should be utilised as follows, 45% of revenue on wildlife protection, 35% on community projects and 20% on administration;
- iv.** ZAWA to increase revenue base by K40 billion in 2009 and K100 billion in 2010 through activities such as professional fund raising and commercializing activities;
- v.** ZAWA was to match income with expenditure from 2008 onwards in order to sustain ZAWA's operations and reduce debts owed to various creditors by K50 billion by the year 2012;
- vi.** The renewal process of Tourism Concession Agreements to begin at least one year before the termination date of the initial agreement;
- vii.** Terminate operator's agreement in any event of failure to comply with the conditions.

## 7. AUDIT FINDINGS

### a. Irregular cash advance payments to Community Resource Boards - Game Management Areas (GMAs)

Within the structure of ZAWA there is a section on GMAs whose overall objective is to provide a link between ZAWA and the Local Communities in wildlife management matters.

Local Communities are expected to utilise the public funds on agreed socio-economic development projects such as schools, health centers, farming and feeder roads among others.

The guidelines on the disbursement of funds require that the funds be transferred through the CRBs bank accounts opened for this purpose.

It was however observed that a sum of K1,368,119,603 was irregularly disbursed between 2008 and 2011 to twenty seven (27) CRBs as advance payments against the share of the community through individuals (Appendix I).

*In response, management agreed with the observation and stated that the Minister responsible for wildlife and tourism had appointed a new Board for the Authority and had created several Committees of the Authority, one of which has been delegated the functions to tackle all matters pertaining to community and wildlife resources management under ZAWA; and that the guidelines on disbursement of funds to CRBs, especially through respective bank accounts will be re-introduced and a democratic and equitable disbursement of funds for socio-economic development projects shall be monitored in close collaboration with district administrations, to ensure compliance.*

However, as of December 2013 no action had been taken.

### b. Lack of documentation on hunting quotas

Contrary to the provision of the Act which requires ZAWA to provide for the licensing of quotas and a documented transparent hunting quota system, there was no evidence regarding the levels of sustainability and the birth and outtake ratio per species. It was therefore difficult to assess how the monitoring of hunting activities to help reduce the decline in wildlife population was done.

*In their response dated 5<sup>th</sup> October 2012, management stated that ZAWA had since undertaken to come up with timely and relatively more accurate and realistic quotas by hunting block from 2013 onwards.*



However, as of December 2013, there was no evidence that ZAWA had come up with timely and relatively more accurate and realistic quotas by hunting block regarding levels of sustainability, the birth and outtake ratio per species.

### **c. Inadequate numbers of scouts in GMAs**

According to the International Union for Conservation of Nature (IUCN), on average a protected areas scout ratio should be one (1) scout per 50km<sup>2</sup>.

However, inquiries and records obtained at ZAWA revealed that the protected area scout ratio varies from 70km<sup>2</sup> to 3,173km<sup>2</sup> per scout. In some instances GMAs have no scouts at all.

As a result of the inadequate numbers of scouts manning the GMAs the monitoring of illegal activities in these areas is not effective.

Despite ZAWA management indicating that they would establish new area management units within the protected area system, to recruit and train adequate and appropriate manpower and in the process, to sustainably provide for the operational requirements (patrols, surveys, controls of human-wildlife conflicts and generally law enforcement activities) of all wildlife police officers in National Parks, Sanctuaries and in GMAs, no action had been taken as of December 2013.

### **d. Mining activities in the National Parks**

Zambia Wildlife Act allows for granting of mining rights in National Parks and GMAs as long as an Environmental Impact Assessment (EIA) which should take into account the need to conserve and protect bio-diversity is carried out and approved by ZEMA. Licences should also be issued regarding mining activities in the National Parks.

However, there were nine (9) mines namely; Fwaya-fwaya, Kapili-Nkesa, Jeff, Shell, Chipembele, Mwase Phiri, Kamusizya and Lupita in Lukusuzi National Park and Easi Fuels Mine in Kafue National Park that were carrying out mining activities without mining licenses.

See pictures below:



***Easi Fuels Mining in Kafue National Park***

These mining activities have over the past years adversely affected the animal population and tourism activities in the national parks. For instance, Lukusuzi National Park has been heavily impacted by precious and semi-precious stone mining.

*In response, management noted the observation and stated that they would undertake measures with a view to reclaiming all lands damaged through prospecting and mining activities and make provision in legislation for mining investment to take greater responsibility for its operations.*

#### **e. Failure to undertake an Environmental Impact Assessment (EIA)**

Contrary to the Environmental Protection and Pollution Control Act (EPPCA) 1997, ZAWA issued twenty one (21) licences to tourist operators without approved environmental impact assessments from Zambia Environmental Management Agency.

#### **f. Failure to Prepare and Implement General Management Plans**

Contrary to the ZAWA Act, nine (9) National Parks and various CRBs did not have general management plans. In this regard, it was not possible to ascertain the activities of the boards such as plans to prevent loss of biodiversity, encroachment, community development activities, among others.

#### **g. Tour operators with valid TCAs but not operating**

Out of a total of thirty (30) tour operators in the Kafue National Park, fifteen (15) operators with valid concession agreements signed between 2003 and 2008 were not operating and had not honoured their obligation to pay fixed charges. However, as of 31<sup>st</sup> December 2013, ZAWA had not taken any action against the operators.

*In response, ZAWA management noted the observations and stated the ZAWA has lost revenue by not collecting fees from past non-performers and therefore it shall adopt stricter criteria before permitting entry by any would-be investor in future.*

## 8. CONCLUSIONS

The increasing demand for use of National Parks for economic development especially mining activities without Statutory Instruments for de-gazetting of certain areas of the National Parks earmarked for economic development such mining, etc. has contributed to unsustainable development. It has also contributed to the increasing exploitation of National Parks for illegal activities that has contributed to loss of bio-diversity. Planning for proper and sustainable utilisation of wildlife resources is important but wildlife management has been ill coordinated and negatively affected by inadequate human, financial and other resources.

Efficient and effective monitoring of the implementation of wildlife activities is fundamental to sustainable wildlife management. However, it is clear that the ZAWA has not been effectively monitoring the activities of encroachments and illegal mining activities resulting in loss of biodiversity. In addition, ZAWA does not have a comprehensive wildlife resources inventory, due to failure to carry out regular wildlife surveys.

This can be partly attributable to the lack of an appropriate legal framework, inadequate national land use planning for agriculture and other land uses, inadequate involvement of stakeholders' especially local communities in management programs. National energy demands, poverty and inadequate resource in-flows in the wildlife management have also impacted negatively to wildlife management.

The Park Management Plans which should have contributed to wildlife management are mostly non-existent. The monitoring aspect of sustainable wildlife management had not been explicitly expressed mainly because the park management plans and the legal framework have not been strengthened, to enforce the monitoring and evaluation activities.

ZAWA cannot protect protected areas as it has insufficient resources, especially appropriate equipment, numbers of personnel and adequate funding. This has resulted in a reduction in wildlife resources through loss of bio-diversity, decline in animal population hence loss of revenue. The protected area coverage still remaining is threatened by the demand for land and for settlements.

Generally, weak accountability at several levels has emerged as a root cause of the under-performance of biodiversity conservation agencies in Zambia. The misalignment between protected area objectives and the needs of the Zambian society, particularly those populations in buffer and immediate areas to the protected areas are far from being addressed. In this regard, conservation agency managers have often led to inefficiency, corruption or patronage associated with state owned resources. Finally, the fact that goals and performance measures are not clearly articulated makes conservation agencies neither accountable for their efficiency nor effectiveness.

Allowing mining in protected areas will set a bad precedent where protected areas intended to preserve critical ecological processes and conserve biodiversity will be irreversibly damaged at the expense of the environment and. High levels of emissions, contamination and pollution does not only pose a health hazard to local people including their livestock but to the entire ecosystem including ground water and surface waters and the rivers banks. Even small scale mining can have severe negative effects in the parks.

The lack of development in GMAs is further caused by the absence of District Development Plans (DDPs) that integrate all of a district's land and resources. Furthermore, politicians sometimes tolerate unlicensed use of resources by local people, and they influence decision-making processes thereby preventing managers from making technically sound decisions.

## 9. RECOMMENDATIONS

It is being recommended that the Ministry of Tourism and Arts should immediately move towards strengthening the legal, policy and institutional framework of ZAWA.

### a. Livelihood of the communities in GMAs

ZAWA should develop and implement a robust public awareness programme for the local people in GMAs and the general public at large. In addition, the following recommendations are suggested;

### b. High Threats and Pressure on Biodiversity and Wildlife

- i. An updated wildlife inventory is essential for providing the most reliable data for setting hunting quota hence ZAWA should update information on wildlife resources, socio-economy and land-use for planning and sustainable management of the wildlife resources;
- ii. ZAWA should take necessary measures to secure its properties so as to prevent allocation of land in the National Parks;
- iii. ZAWA should develop a strategy aimed at addressing the problem of illegal activities in protected areas which is holistic to include a wide range of policy, legal, institutional and technical options;
- iv. ZAWA should ensure that EIA reports are prepared and approved before operators proceed with developments;
- v. ZAWA should develop park management plans in areas where these are not in place in order to strengthen the sustainable management of wildlife.

## NOTES





