Main entry under title:
National Capacity Self-Assessment for Climate Change, Biodiversity and Land degradation in Zimbabwe.

Published by: Climate Change Office, Ministry of Environment and Tourism, Zimbabwe and United Nations Environment Programme (UNEP)

First published in 2008

ISBN: Needed???????
Design and layout: Design@ 7 Visual Works
Cover:
Photographs:
Printers:

The report is available from: Ministry of Environment and Tourism, Climate Change Office, 11th Floor, Kaguvi Building, Corner 4th Street/Central Ave, P/Bag 7753 Causeway, Harare, Zimbabwe. Telephone: (+263-4) 701681/3, Fax: (+263-4) 252673.

ZIMBABWE

MINISTRY OF ENVIRONMENT
AND
TOURISM

NATIONAL CAPACITY SELF-ASSESSMENT

2006

Zimbabwe National Capacity Self-Assessment

This national capacity self-assessment (NCSA) for three Rio-Conventions: United Nations Framework Convention on Climate Change (UNFCCC), United Nations Convention on Biodiversity (UNCBD) and United Nations Convention to Combat Desertification (UNCCD) was conducted by the Ministry of Environment and Tourism on behalf of the Government of the Republic of Zimbabwe with financial support from the Global Environment Facility. The United Nations Environment Programme provided technical oversight and guidelines on the conduct of the study.

TABLE OF CONTENTS

Zimbabwe National Capacity Self-Assessment 2

Executive Summary 3

Chapter 1: Rationale and context of the NCSA 6

- Introduction 6
- Objectives of the NCSA project 6
- National Circumstances 7
- Priority Environmental Issues 14

Chapter 2: Conceptual framework and methods used for the NCSA 33

- Conceptual framework 33
- Methods used in the NCSA 34
- Limitations of the report 35

Chapter 3: Available capacity for implementing the conventions 37

- Available capacity for UNCBD 37
- Available Capacity for UNCCD 43
- Available capacity for UNFCCC 45

Chapter 4: Capacity needs per convention and opportunities to develop capacity 50

- United Nations Framework Convention on Climate Change (UNFCCC) 50
- United Nations Convention Biological Diversity (UNCBD) 55
- United Nations Convention to Combat Desertification (UNCCD) 64

Chapter 5: National capacity development strategy to address the priority environmental issues in Zimbabwe across the three conventions 72

References 80

Appendix 1: Capacity self-assessment questionnaire 81

Appendix 2: Stakeholders in involved in Prioritization of Issues 86

Executive Summary

Until 2004 Zimbabwe had not examined its capacity needs across the three "Rio" Conventions: the United Nations Convention on Biological Diversity (UNCBD), the United Nations Framework Convention on Climate Change (UNFCC) and the United Nations Convention to Combat Desertification (UNCCD). This National Capacity Self Assessment (NSCA) Project addresses this gap. The overall aim of NCSA is to provide Zimbabwe with the opportunity to identify priority capacity needs in order to effectively address crosscutting environmental issues and to assist the country to develop a plan of action to achieve environmental management objectives in the context of the three Conventions.

The capacity assessment approach analyses the Zimbabwe's priority commitments and strategies to the three conventions as a way to identify the successes, as well as the capacity constraints. The identified capacity constraints are analyzed at systemic, institutional and individual levels to come up with strategies and programmes or plans of action that are aimed at addressing these constraints. Priority issues were identified from literature reviews, a survey of 115 key informants and a participatory stakeholder's workshop. At the workshop, a plan of action to remove the key barriers was developed.

National Circumstances

The Ministry of Environment and Tourism (MET) is Zimbabwe's focal point for the three Rio-Conventions. The Ministry has established two offices for Climate Change and Biodiversity to oversee implementation of the UNFCCC and the UNCBD respectively. The Environment Management Agency (EMA) formerly the Department of Natural Resources oversees implementation of the UNCCD. Zimbabwe's national circumstances influence the country's capacity to implement international conventions. The country's economic challenges for the last five years may have undermined the country's ability to mobilize adequate resources to implement some of the Convention related programmmes. However, despite these challenges a number of milestones have been achieved under each Convention such as: training and awareness raising, training on specialized topics such as: greenhouse gas inventories, climate change scenarios, mitigation studies, vulnerability and adaptation studies, and preparation of the National Communications. National Communications on implementation of the UNCBD, UNCCD and UNFCCC have been regularly prepared. Under the country's National Action Plan for implementation of the UNCCD, a number of pilot projects have been successfully implemented. Not less than 200 professionals from different disciplines across the country have participated in these activities. The country has also actively participated in the IPCC activities and COP meetings. These activities have undoubtedly ensured attainment of a reasonable level of capacity in the country for implementation of the Conventions.

Priority capacity issues

The Initial National Communications to the UNFCCC outlines a number of capacities needs for implementation of the convention. The capacity needs relate to finance, technology, greenhouse gas inventories, impact assessment, vulnerability and adaptation analysis, mitigation analysis, research and systematic observations, and public awareness. In this NCSA, capacity needs that cut across the UNFCCC, UNCBD and UNCCD are presented at three levels: systemic, institutional and individual level.

Systemic level capacity needs

- *Capacity for policy analysis, implementation and building strong institutional frameworks*

The responsibility for climate change, land degradation and biodiversity is vested in the Ministry of Environment and Tourism. Implementation of the Environmental Agreements places additional capacity requirements for research, policy formulation and analysis, coordination between different ministries and sectors, as well as monitoring and evaluation. The establishment of more permanent structures in the MET with adequate staff levels is viewed as critical for environmental management, particularly within the context of the UNFCC, UNCBD and UNCCD. This is because it is only within a sound policy framework that good directions are mapped.

- *Capacity for resource mobilization*

Sustainable funding is identified as critical to fulfill the country's obligations under the three conventions. Some related capacity constraints identified are closely linked to absence of a sustainable resource mobilization strategy. There is need to enhance capacity to develop programmes that lead to increased political and public awareness of, and support for the implementation of appropriate responses to climate change, land degradation and biodiversity loss.

Institutional level capacity needs

- *Capacity for communication, education and public awareness (CEPA)*

Awareness on the Conventions, particularly the UNFCCC is limited across the country thereby limiting the involvement of other potential stakeholders. Whereas a lot of relevant information resides with a number of institutions, there is very little information sharing that takes place between stakeholders for a number of reasons such as, inter alia, inadequate information and communication technologies (ICT) infrastructure and inadequate of capacity to use information. This study identifies the need to enhance capacity (i) to share experiences and practices, (ii) to enhance coordination and cooperation at international and regional levels, including networks, and (iii) enhance public participation in and public access to information on activities to address climate change, land degradation and biodiversity loss. Capacity building needs for CEPA include the development or improvement of national programmes for formal and non-formal education, training media and putting in place a system for information exchange.

- *Capacity for research, development and transfer of technology*

This NCSA revealed that Zimbabwe needs to strengthen research, innovation and technology transfer, as they are important for knowledge generation. Research, innovation and technology adoption are identified as critical in responding to the needs of the conventions. Zimbabwe has already done its Technology Transfer Needs assessment and needs to strengthen capacity on access to technology information. Specific needs for capacity for technology transfer include: strengthening of relevant institutions, training and expert exchange and the development of scholarship and cooperative research programmes, strengthen existing capacities in research, development and technological innovation.

- *Capacity for systematic observations and information sharing*

Capacity for systematic monitoring of the climate exists in the country through the Department of Meteorological Services. Some capacity for air-pollution monitoring also exists in a few urban centers but requires strengthening. Systematic monitoring of land degradation and biodiversity loss exists but requires attention in terms of technical capacity. Capacity for information and communication technologies requires strengthening for the benefit of the three conventions.

Individual level capacity needs

- *Capacity for improved decision-making and participation in international negotiations.*

Effective participation of the country's focal point in the international processes of the conventions is important and this requires continuous training. On-line, off-line materials and attending workshops on international negotiations and diplomacy would help to enhance capacity at individual level for the implementation of the conventions.

Chapter 1: Rationale and context of the NCSA

Introduction

Until 2004, Zimbabwe had not examined its capacity needs across the three "Rio" Conventions: the United Nations Convention on Biological Diversity (UNCBD), the United Nations Framework Convention on Climate Change (UNFCC) and the United Nations Convention to Combat Desertification (UNCCD). The National Capacity Self Assessment Project is expected to address this gap. The project provides Zimbabwe the opportunity to conduct a thorough self- assessment and analysis of national capacity needs, priorities and constraints with respect to meeting global environmental management objectives enshrined in the three multilateral environmental conventions. In other words, in order for Zimbabwe to achieve global environmental management objectives there is need for coordinated implementation of the core requirements of Multilateral Environmental Agreements (MEAs) in this particular case, the UNCBD, UNFCC, UNCCD and CITES amongst others. This is because there are inextricable linkages between climate change, the status of biodiversity and the state of land degradation or improvement. Firstly, climate change outcomes and impacts in Zimbabwe are likely to affect the rate of desertification, as well as the status of biodiversity. In addition, all development sectors are inextricably exposed to increases in the frequency of drought, floods and other extreme climate events. Thus, this capacity needs analysis helps to provide the baseline situation specifically for the three Rio-Conventions and proposes the way forward in addressing these capacity needs.

Objectives of the NCSA project

In January 2000, the Global Environment Facility (GEF) and the United Nations Development Programme (UNDP) launched the Capacity Development Initiative, to identify priority issues and capacity development needs in a number of regions and countries. The initiative identified capacity development needs at the three main levels, i.e., systemic, institutional and individual levels, the existence of synergies across conventions in terms of capacity needs and the need for programmatic approaches to capacity development that are nationally driven and reflect country priorities.

In May 2001, the GEF approved the provision of funding for countries to undertake self-assessment capacity building needs, with emphasis on cross-convention synergies in capacity building activities. Against this background, the Ministry of Environment and Tourism (MET) commissioned a study in March 2005 to carry out a National Capacity Self Assessment for implementation of the three above-mentioned conventions in Zimbabwe. But what are Zimbabwe's Commitments in the three conventions? The next section details Zimbabwe's priorities with regards to each of the three conventions.

The overall aim of this National Capacity Self Assessment (NCSA) is to provide Zimbabwe with the opportunity to identify priority capacity needs within the thematic areas of Biodiversity, Climate Change and Land Degradation in order to effectively address cross-cutting global environmental issues and to assist the country to develop a plan of action to achieve environmental management objectives in the context of the three Conventions: the United Nations Convention on Biological Diversity, the United Nations Framework Convention on Climate Change and the United Nations Convention to Combat Desertification.

The specific objectives of this project are:

- To identify, confirm or review priority issues for action within the thematic areas

of Climate Change, Land degradation and Biodiversity.

- To explore related capacity needs within and across the three thematic areas of biodiversity, climate change and desertification/land degradation.
- To develop a targeted and co-coordinated action plan and requests for future external funding and assistance

National Circumstances

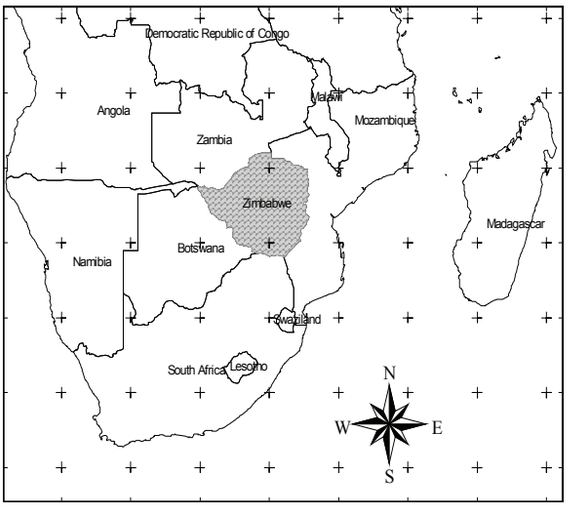

Figure 1.1 Zimbabwe location map.

Zimbabwe's national circumstances influence the country's capacity to achieve its obligations under the three environmental Rio-Conventions. The sections that follow highlight the environmental context of Zimbabwe with respect to implementation of the conventions.

- *Location*

Zimbabwe (Fig. 1.1) is a landlocked country with a total area of 390 580 square kilometers. The country lies between latitudes 15½°S and 22½°S and longitudes 25°E to 33°E, making it wholly tropical. It shares borders with South Africa to the south, Botswana to the west, Mozambique to the east, and Zambia to the northwest. In 1998 arable land was estimated at 8.32% of the total area with permanent crops occupying 0.34% and irrigated land 1170 square kilometers (3.6% of arable land), protected areas namely gazetted forests (2%) and national parks (13%) occupy about 15% of the land area. Conservancies are estimated to cover 15% of the land area.

- *Natural resources and topography*

Much of the country sits on a high plateau 1000 m or more above sea level. From the central Plateau, the altitude decreases northward towards the Zambezi River Valley and southward into the Limpopo River Basin, which averages 500 m above sea level. The lowest point is the junction of Runde and Save Rivers at 162 m above sea level. To the northwest, bordering Zambia stretches the hot, dry Kariba Valley. The Limpopo River basin in the south is flat and supports lowland savannah. The soil groups found in the country include: regosols (sandy and of little agricultural value), lithosols (shallow and easily eroded), sodic soils (easily exhausted), vertisols (most fertile soils and mainly in low rainfall areas), siallitic (fertile moisture retaining soils mostly in drier areas) and the fersiallitic red clay (the most productive soil in the country supporting commercial agriculture). The country is divided into six hydrological zones reflecting the country's main river systems. A few perennial rivers occur in areas with mean annual rainfall greater than 800 mm and where there is contribution from groundwater. According to Zimbabwe State of the Environment Report of 1998, surface water resources (mostly rivers) account for 90% of the country's water supply with a supplement from dams. Because of recurrent droughts, over-exploitation, poor management and ecological degradation, freshwater is increasingly becoming a scarce resource. In 2000, agricultural water use was estimated at 71% of total withdrawals.

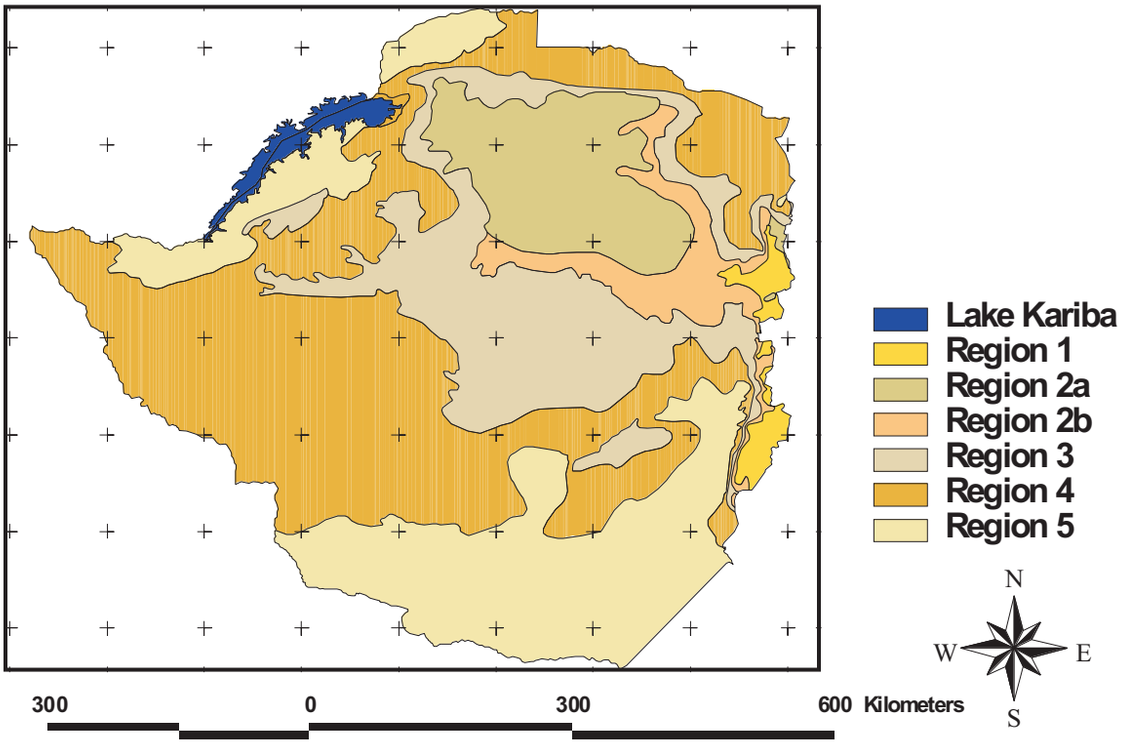

Figure 1.2: Zimbabwe Natural Regions

The Department of Agriculture, Technical and Extension Services (AREX) have divided the country into five Agro-ecological zones (Natural Regions) principally on the basis of the adequacy and efficiency of rainfall (Fig. 1.2). The central plateau offers prime agricultural land, moderate temperatures and summer rainfall that support a diversified base of food and cash crops. Commercial ranches, wildlife and smallholder agro-pastoralism are the main features of the south and northwestern Zimbabwe economy. In the east the central plateau rises to form the Eastern Highlands, a mountainous border range between Zimbabwe and Mozambique, where peaks are around 2300 – 2500 m above mean sea level. Good soils and sufficient rainfall in this region provide excellent agricultural conditions for intensive farming and the commercial exotic timber industry.

Table 1.1 Comparison of the Eco-region with the Natural Regions

ECOREGION	CORRESPONDING NATURAL REGION	ALTITUDE (M)	MEAN ANNUAL RAINFALL (MM)	DOMINANT VEGETATION TYPE
Eastern Highlands	I	1500	740	Themeda-exotheca.loudetia grasslands and brachystegia spiciformis-Julbernadia globiflora woodlands
Save Limpopo	V and IV	687	400	Tree Savana, Acacia
Zambezi	IV	1080	650	Colophospermum Mopane
Central	II and III	1300	620	Brachystegia spiciformis-julbernardia globiflora
Kalahari	IV and V	1030	560	Colophospermum mopane and Baikiaea

Socio-economic conditions, including dominant economic sectors

According to a UN report, released in May 2006, Zimbabwe is classified as a Least Developed Country. It has a population of 12 million people (2002 Census) with an age structure as follows: 0-14 years (39.2%), 15-64 years (57.1%) and 65 years and above (3.7%). The population growth rate is estimated at 1.1% (Central Statistical Office, 2002). Approximately 70% of the population resides in rural areas. Principal livelihood activities in rural areas are rain-fed crop production (both food and cash crops), animal husbandry, and employment on farms, with limited off farm trading activities. Although Zimbabwe's economy is largely agro-based, the country has some energy intensive industries such as: iron and steel, cement, and smelting, which are of strategic importance to the country. The country's GDP (purchasing power parity) is US$8.3 billion and a GDP per capita of US$ 610 by 1995(Environmental Profile of Zimbabwe 2004 also http://siteresources.worldbank.org/INTEEI/Data/20859232/Zimbabwe.pdf). In 2002, 70% of the population was estimated to be below the poverty line. National income is highly skewed, with lowest 10% and highest 10% of the population having 1.97% and 40.4% of the national income (1995 est.). In 1995, 75% of the country's households in rural areas were classified as either poor or very poor. The increase in poverty is compounded by the HIV/AIDS pandemic. The 2003 Zimbabwe Human Development report estimates that an average 25-30% of the productive 15-49 year old age group is infected with HIV. HIV/AIDS lowered life expectancy from 61 years in 1990 to 43 years in 2003. However, literacy levels for the 15-24 year age group rose from 95% to 98% from 1992 to 1999.

Agriculture and the economy

In 1996, agriculture employed 66% of total labour force, industry 10% and services 24%. In 2004 agriculture contributed 18.1% towards GDP, industry

24.3% and services 57.7%. At Independence in 1980, Zimbabwe inherited a dual agriculture economy, consisting of a highly productive mechanized large-scale commercial farming sector mainly located in areas with good soil and favourable rainfall patterns between Natural regions I and III, alongside a relatively low input, low output, communal agriculture sector located predominantly in dry and infertile regions in Natural regions III, IV, and V.

The country's economy has progressively been under recession over the past 10 years largely as a result of recurrent droughts and skewed macro-economic fundamentals. By 1997 manufacturing production was 13% below the peak 1991 levels, and GDP per capita was 7.5% below 1975 levels. The GDP growth rate has progressively fallen from a high of 10% in 1996 to the negative range. Inflation reached a peak of 623% in January 2005 (Fig. 1.3). In 2004 exports earned UD$1.409 billion against total imports of US$1.599 billion. Major export partners in 2004 were South Africa (31.5%), Switzerland (7.4%), United Kingdom (7.3%), China (6.1%) and Germany (4.3%), whereas import partners were South Africa (46.9%), Botswana (3.6%) and United Kingdom (3.4%). External debt stands at US$4.086 billion (2004) and foreign economic aid amounted to US$178 million (2000 est.).

The most significant change to Zimbabwe's socio-economic structure was the initiation by Government of the fast-track land reform program in June 2002. Land was acquired from the large-scale commercial farming sector for redistribution to predominantly landless poor Zimbabweans. However, resettled farmers remain constrained by limited technical and inputs support services to ensure full utilization of acquired land and national food security. Two national-level human development reports (GoZ-UNDP, 1998; 1999) show disparities between geographical regions and between urban and rural communities in terms of Human Development Index (HDI) and Human Poverty Index (HPI).

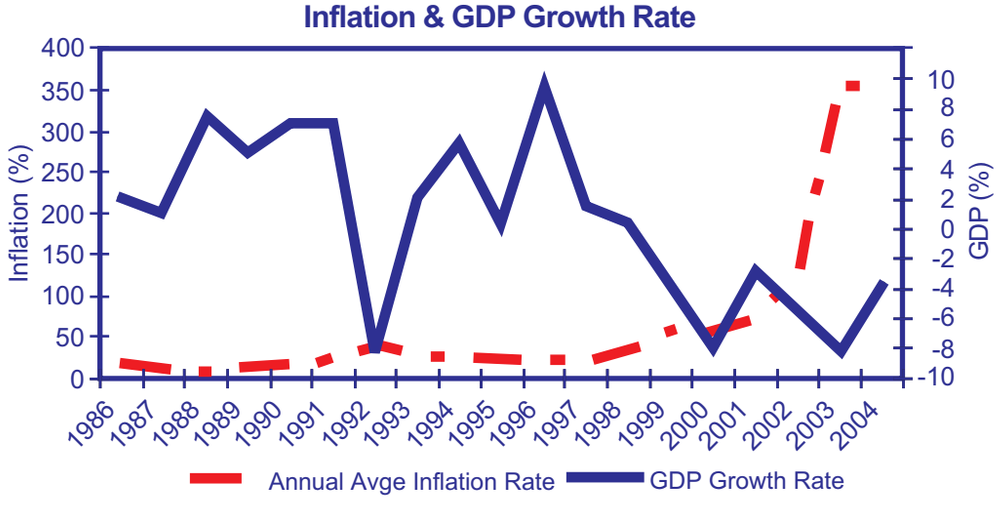

Figure 1.3: Zimbabwe's GDP and inflation statistics (RBZ, 2005)

Overview of climatic conditions

Zimbabwe is a semi-arid country with national mean annual rainfall of about 650 mm. This mean annual rainfall ranges from below 300 mm in the low lying Limpopo Valley to over 3000 mm per annum in some high mountain areas to the east. The rainy season stretches from November to March of the following calendar year, with a peak in January when rainfall exceeds 100 mm over almost the entire country. In December, January and February only the low-lying Limpopo Valley and a small part of the Save Valley do not average more than 100 mm per month. The rainfall regime is predominantly free convection associated with the Inter-tropical Convergence Zone (ITCZ). Zimbabwe rainfall exhibits high inter-annual variability with recurrent droughts and floods. On average, 1-3 droughts occur every 10 years in the country. Inter-annual rainfall fluctuations have been largely ascribed to changes in the phases of the El Nino – Southern Oscillation (ENSO) phenomenon and periodic sea surface temperature oscillations. Mean annual temperature is greatly influenced by altitude, being about 18-19°C at about 1400 m above mean sea level, 23°C in the Limpopo Valley at 450 m and as low as 15°C at 1800 m in the eastern highlands.

Temperature and Rainfall

Zimbabwe is a warmer country at the end of the twentieth century than it was at the beginning. The annual-mean temperature has increased by about 0.4°C since 1900, and the 1990s decade has been the warmest year this century. This warming has been greatest during the dry season. During the wet season, daytime temperatures have warmed more than nighttime temperatures. There has been an overall decline of nearly 5 per cent in rainfall across Zimbabwe during the century, although there have also been substantial periods - for example, the 1920s, 1950s, 1970s - that have been much wetter than average. The early 1990s witnessed probably the driest period this century. Since about 1976 there has been a tendency for negative (El Niño) warm phases of ENSO to dominate. This period has seen very strong El Niños in 1982/83 and 1997/98 and a prolonged El Niño between 1991 and 1994, events, which some people think have been partly caused by global warming.

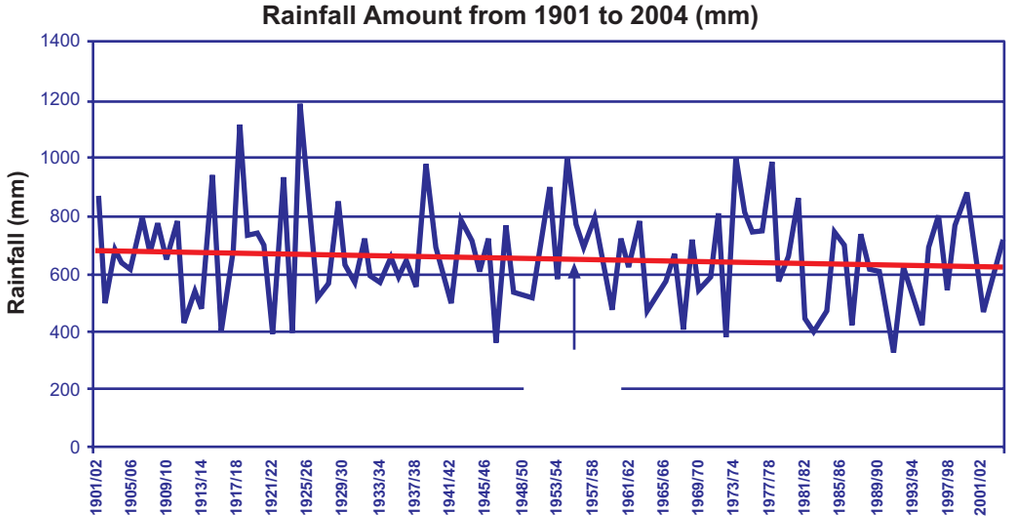

Figure 2.3 Zimbabwe National average rainfall trends (Zimbabwe Met.

Future Temperature Change

Zimbabwe's continental interior location means that it warms somewhat more rapidly in the future than the global average. Annual warming reaches about 0.15°C/decade under the B1-low scenario, but this rate of warming increases to about 0.55°C/decade for the A2-high scenario. Rates of warming are slightly greater than this during the dry season and slightly less than this during the wet season.

Future Rainfall Change

Model experiments suggest that annual rainfall decreases across Zimbabwe in the future. This decrease occurs in all seasons, but is more conclusive for the early and late rains than for the main rainy season months of December to February. By the 2080s, annual rainfall averages between 5 per cent (B1-low scenario) and 18 per cent (A2-high scenario) less than the 1961-90 average. For comparison, the decade 1986-1995 in Zimbabwe was about 15 per cent drier than average.

Climate Change Impacts

Future decreases in rainfall will have implications for the contribution made by Lake Kariba to the Zimbabwean economy. Lake levels are crucial for energy generation at the Kariba Dam and also for the wildlife in Kariba National Park sited along the banks of the reservoir. The dry years of the mid-1980s led to a major fall in the lake's level and a reduction in energy generation.

Effects of Drought

Climate change over the coming decades presents a serious threat to African wildlife, ecosystems and agriculture. Scenarios of rising temperature and falling rainfall for Zimbabwe imply a decline in woodlands and edaphic grassland areas and an expansion in the area of scrub savanna. The semi-desert areas of southwest Zimbabwe would expand. Wild species such as white rhino, buffalo, roan and sable antelope, tsessebe and reedbuck would be adversely affected as would be a wide range of arboreal and grassland bird and insect species. Lower livestock populations (and reduced agricultural production) would increase the reliance of rural populations on wild species and further accelerate their decline.

Vector-borne Disease

Climate change will alter the distributions of the preferred habitats of disease-carrying insects, most notably mosquitoes, tsetse flies, and ticks. Modeling work suggests Zimbabwe's climate change scenarios would lead to an increase in the distribution of the malaria-bearing Anopheles gambiae mosquito. As with many impacts of climate change, preparing for change will be a key to successful adaptation.

Priority Environmental Issues

Biological Diversity

Zimbabwe's biodiversity is conserved in-situ as well as ex-situ. Zimbabwe's biodiversity is found in gazetted forest areas, national parks, safari areas sanctuaries, botanical reserves, recreational parks and non-protected areas such as conservancies and communal lands. The key problem affecting biodiversity conservation and management as indicated in the NBSAP relates to loss of biodiversity particularly in non-protected areas, i.e., the communal and resettlement areas. The NCSA findings support this observation but goes further to identify inadequate inventory and monitoring (See Chapter 4).

Loss of Forest Biodiversity

The term loss of biodiversity is broad and relates to the reduction in the variability of species, the decline in the populations within the same species and the total loss of particular species. Biodiversity loss has occurred in both plants (flora) and animals (fauna) at varying degrees of intensity through time and space. For example there has been a marked loss of bio-diversity in the communal areas of Zimbabwe. Macro-economic as well as climatic conditions have resulted in differential losses of biodiversity during given period of Zimbabwe's history. The recurrent

droughts that Zimbabwe has been facing since have resulted in the loss in the numbers of certain species.
It is also generally observed that poaching of wildlife has tended to rise when the economy declines and poverty rises.

Specifically, the root causes of forest biodiversity loss in Zimbabwe include population pressure and poorly defined tenure systems. The increase in population particularly in the communal areas due to natural factors as well as inward migration from urban areas where economic conditions have declined has resulted in the need for land for cultivation. This has resulted in grazing areas and mountain slopes being converted to agricultural land and resultant loss of biodiversity. The land reform program has resulted in an increase in the number of small –scale farmers who upon settlement convert previously wooded areas into agricultural land. Forest biodiversity loss also results from uncontrolled veldt fires that arise due to the need to clear land for agriculture and illegal hunting. The NCSA assessment of the Convention to Combat Desertification provides evidence that deforestation is mainly caused by agricultural expansion in newly resettled areas.

Biotic factors have also caused loss of forest biodiversity, for example Zimbabwe's Miombo woodlands (Julbernardia-Brachystegia combination) are threatened by scale insects, which attack the stems of branches and cause defoliation and dieback. Mukwa and Baobab species have been affected by insects' damage as well.

Selective logging and extraction of indigenous timber for commercial purposes as well as for woodcarving and for biomass energy has resulted in the decline of forest biodiversity. There has been over exploitation of teak forest for furniture making. Local communities also exploit certain tree species for woodcarvings; this has tended to increase with the rising levels of poverty. Certain tree species have been overexploited for their medicinal value e.g the Warbugia salutaris (muranga).

The loss of plant biodiversity, particularly the extinction of certain species is partly attributed to bio-piracy and the breach of intellectual property rights. Plant bio-piracy for medicinal purposes is a cause for concern for Zimbabwe. Local communities have been made to over-exploit certain plant species by outsiders who are aware of the genetic value of such plants but do not however disclose to the communities.

Invasive alien species in the form of exotic and ornamental plants have led to the loss of habitats and forest biodiversity. The introduction of the pine species and wattle trees has led to the alteration of the habitats and the replacement of endemic and indigenous plant species. The introduction of the water hyacinth as an ornamental plant in dams has led to its natural propagation such that it now poses a problem to Lake Chivero, the source of drinking water for the City of Harare. Uncontrolled spread of noxious weeds and plants such as the Lantana camara has altered the quality of grazing lands in many communal lands of Zimbabwe

Loss of Wildlife Biodiversity

The diversity of wildlife is to a large extent influenced by the physical environment including climate. The changes in the physical environment whether through man-made factors or natural factors causes changes in the size, distribution and species composition of wildlife. Climatic induced droughts and floods have a drastic effect on wildlife in most instances reducing the size of the populations.

Deforestation tends to alter the habitats of wildlife resulting in the loss of big-herbivores when the forests and woodlands are reduced to bush land. In instances where the woodlands have been turned to grasslands, only the small antelopes and rabbits remain. In Zimbabwe the problem of deforestation threatens newly resettled areas as well as commercial farms adjacent to communal areas. Improper land use systems that have arisen in the former conservancies have resulted in the loss of wildlife through alterations of habitats as well as poaching.

Elephants are emerging as a cause for the loss of

other wildlife species due to the destruction of vegetation. The elephant population in Zimbabwe currently exceeds its carrying capacity and there are reports of widespread elephant induced loss of woodlands in Hwange National Park and other protected areas.

Poaching has directly contributed to the loss of biodiversity particularly in National parks and other protected areas. Poaching is at two levels, firstly, the subsistence level, which is mainly a result of the growing poverty amongst communities and the limited resources available for law enforcement. The second level of poaching is for commercial purposes and mainly relates to the Rhino and Elephants that are hunted for their tusks and horns that are valuable for perceived medicinal purposes and ivory respectively.

Mining activities are a threat to biodiversity as a result of the land clearing, mine dumping and use of chemicals.

Land Degradation and Biodiversity

The key environmental problem that the UNCCD seeks to address is land degradation. Zimbabwe is prone to land degradation because of the semi-arid nature of its climate, the easily erodable nature of the soils as well as the geology that has resulted in large areas consisting of plateaus and mountains. Land degradation is the reduction in the land resource potential manifest by, soil erosion, denudation, and loss of fertility, loss of vegetation cover, invasion by alien species, habitant conversion and aquifer degradation. The causes of land degradation are both direct and indirect. Direct causes include deforestation, gold panning, wildlife poaching, soil erosion, stream-bank cultivation and illegal sand extractions. Indirect causes relate to:

- Poorly developed institutional systems resulting in lack of accountability regarding monitoring and enforcement of environmental legislation.
- Absence of environmental management regulations due in part to the absence of effective institutions.
- Lack of viable alternatives coupled with limited agricultural production stemming from a combination of recurring droughts and inadequate input support.
- Insecure tenure rights which fail to promote investments in environmental management

Deforestation is the leading cause of land degradation and has been on the increase particularly in the resettlement areas due to several causes, especially clearing of land for expansion of agriculture, collection of firewood for subsistence use a well as for commercial purposes as a response to the demand created by the rise in electricity charges and the shortage of paraffin. The collection of firewood has had major impacts on peri-urban land, which have been cleared of woodland by desperate urban residents. The harsh economic climate has also resulted in an increase in peri-urban agriculture that is usually accompanied by bush clearing. Due to the increase in the number of smallholder farmers entering into tobacco production there has been an increase in demand for wood fuel necessitated by the lack of financial resources to purchase coal and the high electricity costs.

Soil erosion is a major environmental problem in Zimbabwe due largely to deforestation and poor conservation practices in most water catchments. Evidence of soil erosion includes siltation of dams and gully formation. The Limpopo and Save rivers whose catchments are in the ecologically fragile regions IV and V now only flow during the rainy seasons and only consist of stagnant pools in isolated places during the dry months. Land mismanagement through unsustainable cultivation practices as well as improper land use has increased the threat of siltation. Stream bank cultivation, wetland mismanagement and improper tilling practices on mountain slopes have been the main cause of siltation.

The use of fires for clearing land and managing pastures is a common practice in Zimbabwe. Over the years, the fires have not been managed. The practice is wide spread in resettlement areas where in many cases farmers will be opening up virgin land.

The damage caused by fires includes the destruction of pastures and ecosystems.

Gold panning has is a national problem and keeping the activity under control has been a major challenge. Gold panning presents a broadened livelihood strategy for the poor especially under a harsh economic environment. Environmental problems stemming from gold panning range from outright destruction of the landscape, increase in siltation, destabilization of infrastructure such as buildings where this has occurred, poor sanitation, water pollution and increase in communicable diseases including HIV and AIDS.

Droughts and floods are becoming common in Zimbabwe and meteorological experts attribute this to Climate Change. Droughts are devastating on wildlife resources as well as cause the decline in vegetation thereby altering the wildlife habitats. Floods on the other hand cause the wholesale removal of already fragile soils and widen gullies creating very unpleasant landscapes. Food security is compromised during periods of drought and floods.

Sand extraction from rivers found within and near urban areas has been on the increase during the past five years. The difficult macro economic environment has resulted in rising costs of building materials creating a huge demand for alternatives sourced from the informal sector. Unemployment has also forced many youths to seek income-generating ventures such as illegal sand extraction. The illegal extraction of river sand has created problems of pollution and siltation of river courses that are sources of drinking water for the cities of Harare and Chitungwiza.

CROSS CUTTING ENVIRONMENTAL PROBLEMS

A stakeholder workshop in early 2006 identified land-degradation, drought and floods as key crosscutting environmental issues facing the country. Land degradation reduces the quality and quantity of natural resources as well as the capability of the land to sustain agriculture. Land degradation however arises from other fundamental issues such as unsustainable use and exploitation of resources. The unsustainable use of forest resources for example leads to the loss of vegetative cover and the decline in habitats, reduced carbon sequestration capacity and exacerbates climate change which in turn affects biodiversity and general ecosystem well-being.

Land degradation and climate change are also linked in that changes in climate relating to rainfall patterns may result in arid conditions which lend themselves more to land degradation particularly vegetation loss and soil erosion. The challenge for Zimbabwe is management of the dry low-lying areas in the Save Valley, the Limpopo Valley and the Zambezi Valley. These areas have high rainfall variability and infertile soils that are prone to erosion. In Zimbabwe soil erosion, soil infertility, siltation, deforestation, over harvesting of wood for fuel, medicines and crafts as well as the conversion of land for agricultural purposes by new settlers under land reform program are the main causes of land degradation. Poverty and the lack of alternatives for livelihoods, and for water and energy, weak policies for monitoring particularly after the Fast Track Land Resettlement program have also worsened the country's disposition to land degradation. The lack of education and awareness programs and land use planning has also been cited as contributing to the accelerated degradation in the newly resettled areas. One can draw linkages amongst biodiversity, climate change and land degradation. For example, well-conserved ecosystems are likely to yield higher biodiversity whilst drastic change in the ecosystem due to severe land degradation may change the habitats of certain species. Well-conserved ecosystems are also likely to have forests that can act as carbon sinks thereby reducing the level of carbon emissions.

The need for an environmental information system (EIS) is a crosscutting issue among conventions and is important in enhancing the availability of information, which will enable implementation of various environmental programmes. With an EIS the country should be in a position to monitor and evaluate the state of the environment to determine

whether the strategies that have been put in place have an impact on the environment. Critically important is the availability of timely and accurate knowledge of the environment and natural resources. For this knowledge to exist there is need for different sets of data/information that describe the environment, physically, socio-economically, and politically in an integrated manner.

POLICY, LEGISLATIVE AND INSTITUTIONAL CONTEXT, FOR THREE THEMATIC AREAS

Zimbabwe has ratified several MEAs with varying degrees of success in adapting national statutes to complement them. In this section, existing policies, legal frameworks and institutions that are relevant to implementation of the three Conventions are presented.

POLICY CONTEXT

Table 1.2 Zimbabwe's Policy Environment In Relation to UNCBD, UNCCD and UNFCCC

Policy	Policy Objective(s)	Strategies
Draft Environmental Policy	To avoid irreversible environmental damage, maintain essential environmental processes and preserve the broad spectrum of biological diversity so as to sustain the long-term ability of natural resources to meet the basic needs of people, enhance food security, reduce poverty and improve the standard of living of Zimbabweans through long-term economic growth and the creating of employment.	• Integrate environment in all development policies, programmes and management plans. • Have in place a sound Environmental Information System (EIS). • Human resource and technical capacity development to be able to identify, assess, evaluate and respond to the possible impacts of development on environmental structure and functioning. • Research and monitoring to assess the effectiveness of measures implemented.
The adoption of a national environmental law for Zimbabwe in 2003 provided the strategic response to addressing environmental challenges facing the country. The national environment law calls for holistic management of water and land recognizing the need for integrated management on a catchments basis hence directly complementing the requirement of the UNCCD.		

Table 1.2 Zimbabwe's Policy Environment In Relation to UNCBD, UNCCD and UNFCCC

Policy	Policy Objective(s)	Strategies
National Drought Management Policy	To build the capacity of individuals and communities at the household level to enable them to plan and undertake activities that efficiently and effectively utilize household resources to ensure the sustainability of their livelihood systems and that all household members have access to adequate, safe and nutritious food to maintain a healthy and active life.	- Management of natural resources - Rural industrialization and indigenisation - Promotion of small scale enterprises - Resettlement and proper land-use practices - Water resources and irrigation development - Food and nutrition Indigenous knowledge and adaptive strategies that lead to sustainable livelihoods - Rural development
The national drought policy has enabled the implementation of the food-for-work program during periods of droughts. Some of the projects implemented under the food-for-work program are linked to conservation and rehabilitation of the environment in addition communities have benefited through various income generating enterprises thereby supporting the UNCCD.		

Table 1.2 Zimbabwe's Policy Environment In Relation to UNCBD, UNCCD and UNFCCC

Policy	Policy Objective(s)	Strategies
Water Resources Policy and Strategy	To promote the sustainable, efficient and integrated utilisation of water resources for the benefit of all Zimbabweans.	• Promote equal acess to water for all • Promotes stakeholder participation and involvement in decision making for water sector. • Promote integrated approach to land and water management • Promote the utilization of water resources in an economically efficient manner • Put in place measures that enhance the availability of water resources of suitable quality and quantity where and when it is needed • To promote fair and sustainable utilisation of water resources on the internationally shared water courses • Put in place strategies that will promote the production of accurate water data on water use and demand for both surface and ground water • Promote private sector financing in water sector as well as improve opportunities for self financing and amelioration of public sector financing • Promote integration of sector and regional water policies
The policy and strategy provide for an integrated approach to land and water management through the catchment managemnt system which is in line with the UNCCD .		
Agriculture Policy	To reduce the current emphasis on the provision of food aid in favour of a broad approach of sound strategies and schemes that reduce the vulnerability of households to drought induced food insecurity	• Improving water availability through water harvesting by construction of dams, • Expansion of irrigation and equitable distribibution of water for irrigation. • Research to improve drought and disease tolerance of food crops.
Land Reform Policy		

Table 1.2 Zimbabwe's Policy Environment In Relation to UNCBD, UNCCD and UNFCCC

Policy	Policy Objective(s)	Strategies
The Integrated Conservation Plan for the Fast Track Land Reform Program	The plan represents a direct reactive response to the increasing land degradation that is becoming a threat to resources in resettlement areas. The plan is a retrospective strategy meant to prevent environmental degradation in newly settled lands. The main objective of the plan is to impart environmental awareness and develop a culture of resource management in resettled areas. The plan includes strategies in the wildlife, natural resources and forestry sectors including the following:	• Integrated land use planning for new schemes where resettlement has not yet occurred • Promoting micro-catchments management including woodland management • Collection of baseline information for production of natural resources inventory maps which are vital for monitoring purposes. • Formation of conservation committees • Agro-forestry in newly settled areas • Need to take advantage of economic and ecological attributes of wildlife production in parts of the country prone to drought. • Need for provision of financial resources and technical support for constructing conservation works and rehabilitation of degraded areas.
Wildlife Based Land Reform Policy	To maximize the livelihoods options for resettled farmers particularly those living in areas where crop production has limited potential by ensuring profitable, equitable and sustainable use of wildlife and other resources. The specific objectives are to:	➢ Ensure more equitable access by the majority of Zimbabweans to land and wildlife resources and to the business opportunities that stem from these resources; ➢ Maintain a proportion of land outside protected areas under wildlife production; ➢ Promoting a diversity of land uses through wildlife production and to develop; and implement appropriate institutional arrangements from wildlife based land reform
Draft Forest-based Land Reform Policy	• To ensure forestry is taken as viable land use option	• Maintaining areas desiganted for forestry plantations

Table 1.2 Zimbabwe's Policy Environment In Relation to UNCBD, UNCCD and UNFCCC

Policy	Policy Objective(s)	Strategies
Draft Energy Policy	• To ensure accelerated economic development • To facilitate rural development • To promote small-medium scale enterprises • To ensure environmentally friendly energy development, and • To ensure efficient utilization of energy resources	• No strategies have been developed
Draft Transport policy	Minimize the negative impact of transport sector on the environment	• Invest in non-polluting urban public transport modes. • Introduce environment tax to curb the pollution of the urban environment. • Ban heavy goods vehicles especially transit road haulage trucks carrying dangerous cargo from traversing the city centres and residential areas. • Develop ring roads to enable vehicles with no business in the respective city to by pass city centers to curb pollution. • Encourage the use of bicycles, a benign and non-polluting mode of transport.
	Promote energy conservation	• Encourage car sharing and pooling in order to save on fuel, foreign currency as well as reducing individual user costs. • Introduce alternative energy sources such as the use of solar powered signals.

Zimbabwe is yet to produce an integrated climate change policy and legal framework specifically to address issues of climate change and adaptation. However, a number of sector policies highlighting the importance of addressing climate variability have been formulated and the objectives and strategies of some of these policies are summarized in Table 1.2.

LEGISLATIVE CONTEXT

Environmental legislation is administered by various Government Departments in various ministries. The Ministry of Environment and Tourism, however, administers most of the acts that deal with the environment directly. There are nearly 20 Acts and nearly 40 statutory laws that are used in the country. Of the most important include: the Environmental Management Act (2004) the umbrella legislation incorporating the Natural Resources Act (1941), Hazardous Substances and Articles Act (1977) and Atmospheric Pollution Prevention Act (1971). Other relevant statutes include the Forest Act (1996), Communal Land Forest Produce Act (1987) Water Act (1976) and Communal Land Act (1982).

Generally, the enforcement of some of these acts is challenging due to the provision of exemptions that allow companies to pollute, in some cases; the various pieces of legislation are conflicting, which leads to further problems of implementation. In other words, there is no lack of legislation per se, but the various laws were fragmented and recently a coherent national environmental policy in the form of umbrella legislation, has just been developed.

Environmental Management Act (EMA) of 2004

EMA is a comprehensive legal framework that provides for sustainable management of natural resources and protection of the environment, the prevention of pollution and environmental degradation. At the core of environmental management is the development of environmental management plans beginning from national to village levels. EMA has provisions for the drawing up of a national environment plan (NEP) and has given indication in terms of the content of the NEP including measures aimed at protecting ecological processes, natural systems and promotion of sustained utilization of species and ecosystems and effective application and re-use of natural resources amongst other provisions. EMA has also legalized the Environmental Impact Assessment policy. Part XII of EMA has provisions that are relevant to the land sector. The President is authorized to set aside communal lands for conservation purposes or improvement of natural resources or protection of irrigation works. This provides for the rehabilitation of severely degraded land. EMA also gives the Minister of Environment and Tourism the right to direct the constructions for the rehabilitation of the environment not withstanding the provisions of any other law. This is particularly useful for land affected by mining explorations that were previously protected by the Mines and Minerals Act. The Minister's authority in this regard also extends to private property. Protection of wetlands is mandatory, giving a legal basis for prosecutions relating to stream bank cultivation and unsustainable utilization of wetlands

Water Act 1998

The Water Act of 1998 provides for the development and provision of the water resources of Zimbabwe. Some of the its objectives are:

- To provide for the establishment of catchments council and sub-catchments councils
- To provide for granting of permits for the use of water
- To provide for the control of the use of water when water is in short supply
- Provides for the protections of the environment and the prevention and control of water pollution

The main thrust f the Act is the devolution of water management to the lowest appropriate levels. However the catchments and sub-catchments councils need to be strengthened and supported for the devolution to be effective. In addition there is need for integrated catchments management (ICM), which involves the co-ordinated utilization, and management of land, water, people, vegetation and resources based on the catchments as a management unit. The ICM should contribute towards biodiversity conservation and attainment of sustainable development.

Forest Act of 1948

The Forest Act and the Communal Lands Forest Produce Act (CLFPA) are the principal pieces

of legislation that govern the exploitation and protection of forest and woodland resources in Zimbabwe. The Forest Act (CAP.19:05) of 1948 revised in 1996 gazetted the establishment of forest areas for the sustainable extraction of timber; to act as reservoirs of wildlife and water catchments; and, for the conservation of biological diversity. . The Communal Land Forest Produce Act of 1987) regulates the exploitation of timber resources in communal areas. Exploitation by local communities is restricted to own the Rural District Council controls use and commercial harvesting. The situation in resettlement areas is not clear. The Forestry Commission administers the two pieces of legislation on behalf of the Ministry of Environment and Tourism.

Parks and Wildlife Act 0f 1976

The Parks and Wildlife Act of 1976is administered by the Parks and Wildlife Authority on behalf of the Ministry of Environment and Tourism. The Authority has the overall authority for wildlife management in the country and has direct responsibility for the managing national parks estate, setting hunting quotas, granting concessions and administering leases. The Authority is also responsible for implementing CITES and in this regards is in charge of management of permits for the import and export of wildlife.

INSTITUTIONAL CONTEXT

The Ministry of Environment and Tourism is the focal point for the implementation of the Environmental Conventions in Zimbabwe. Implementation of the UNFCCC is administered through an ad-hoc Climate Change Office and a standing National Climate Change Committee, UNCCD implementation is coordinated by the Environmental Management Agency, which is a new quasi –government institution formed in 2005 to implement the Environmental Management Act comprises mainly of the former Department of Natural Resources. UNCBD implementation is the responsibility of the Biodiversity Office under the Ministry of Environment and Tourism.

Table 1.3 Key Government and non-government actors of direct relevance to Environmental Management in Zimbabwe		
Ministry/Sector	Institution	Functions
Environment and Tourism (Permanent Secretary is the foal point for UNCBD and the UNFCCC)	Environmental Managemnet Agency	Environmental management
	National Parks	Wild-life management
	Forestry Commission	All aspects of forestry
Agriculture	Agricultural Research and Extension Department	Extension, landuse planning, soil and water conservation, early warning
	Livestock Development	Livestock development
Finance	Treasury	Revenue & expenditure planning
Water and Infrastructure	Irrigation Department	Irrigation development
	ZINWA	Bulk water management and supply. Catchment planning
Transport and Communications	Meteorological Services	Monitoring and prediction of the climate system
Quasi-Government	Universities	Environmental training and research
Local Government, Urban and Rural Development	Rural District Councils	Supervisory role of local government Lead organization in local environmental management.
Non-Governmental Organizations	- Zero Regional - UNDP GEF/SGP - Environment Africa	Community facilitation Advocacy
Private		Technology development and transfer

Local socio-economic context: institutions governing local economic development and social interactions

Local government is comprised of democratically elected representatives that maintain public services and infrastructure at the local level. Rural District Councils are established in terms of the Rural District Councils Act. They are development and planning authorities for their respective areas. Before the unitary system, Rural District Councils had limited financial and technical capacity than their urban counterparts.

Local authorities work mainly through committees. The compulsory committees are mainly for finance, health, housing, environment and roads.

Other committees that form part of the local government structures and that require direct participation of civil society are Village Development Committees (VIDCOs) and Ward Development Committees (WADCOs). These focus on local development issues. Lack of financial and technical expertise has been the main barriers to the effective functioning of VIDCOs and WADCOs. Traditional leaders are also an important component of the local governance process and activities in rural areas.

Zimbabwe's commitment and priority capacity areas under each convention

Zimbabwe and the UNFCCC

The Government of Zimbabwe signed the UNFCCC at the Earth Summit in Rio de Janeiro in 1992 and ratified it on 5 November 1992. The objective of the UNFCCC is "the stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system". The Convention covers all greenhouse gases not covered by the Montreal Protocol with the focus being on the following on Carbon dioxide, Methane, Nitrous Oxide, Hydro fluorocarbons, Perflourocarbons and Sulphur hexafluoride. The country has accepted the global principle of common and differentiated responsibility. Furthermore, Zimbabwe has adopted the precautionary and 'no regrets' principle. This implies taking early appropriate action to mitigate and adapt to possible future climate change.

In a bid to meet its obligations enshrined in the Convention, Zimbabwe has in the first National Communication to the UNFCCC identified priority areas for action:

The First National Communication identified the following capacity development needs for Zimbabwe:

- Building of a continuous GHG monitoring system and national database.
- Research tools and techniques related to climate change
- Assessment of Vulnerability and adaptation to climate variability and change
- Systematic Climate/Environmental change information generation, sharing and dissemination.
- Climate change related Policy research, formulation and analysis
- Decision support systems
- School curriculum development for climate change
- Adequate funding
- Training and capacity development for climate change decision-making in industry to assist enterprises enhance their ability to introduce various climate change mitigation or emission reduction strategies.

Zimbabwe and the UNCBD

Zimbabwe was one of the first countries to sign and ratify United Nations the Convention on Biodiversity (UNCBD). Zimbabwe signed the CBD on 12 June 1992 and ratified it on 11 November 1994 . The UNCBD is based on three main pillars: 1) the conservation, 2) the sustainable use and 3) the equitable access to biodiversity resources. The UNCBD specifically applies the 27 Principles of the Rio Declaration on Environment and Development to the specific needs of biodiversity. Zimbabwe is a signatory to the UNCBD indicating that the country confirmed its responsibility to implement the three UNCBD objectives. Implementing the requirements of the three UNCBD pillars is done via a series of articles that stipulates different requirements. Zimbabwe's long history of biodiversity management has shown that some of her strategies to manage biodiversity in line with the requirements of the UNCBD were adopted well before the signing of the UNCBD in 1992. Nevertheless, Zimbabwe prepared a National Biodiversity Strategy and Action Plan (NBSAP) in 1998 (Ministry of Environment and Tourism 1998) which set forth Zimbabwe's eight priority areas as unmet needs to fulfill its commitment to the UNCBD. Zimbabwe's priority areas as detailed in the NBSAP are illustrated in Table 1.4

Table 1.4 Zimbabwe's priorities as per UNCBD and NBSAP

UNCBD Article	Zimbabwe's priority strategy
Article 6. General measures of conservation and sustainable use	• Formulation of a national conservation strategy (Ministry of Natural Resources and Tourism 1987) • Strengthening and harmonization of relevant legislation that recognize the need for biodiversity conservation and maximization of synergies across sectors and the development of a comprehensive national policy on biodiversity (Ministry of Environment and Tourism 1998). • Provision of a sustainable and readily accessible institutional base to facilitate biodiversity initiatives projects at local level (Ministry of Environment and Tourism 1998 Biodiversity Office established)
Article 7. Identification and Monitoring	• Development of a comprehensive and elaborate biodiversity inventory and monitoring programmes (Ministry of Environment and Tourism 1998)
Article 8. In-Situ Conservation	• Management of a network of national parks and other protected areas (National Parks and Wildlife Act, Forest Act, Natural Resources Act)
Article 9.Ex-Situ Conservation	• Management of seed banks, resource conservation stands and botanical gardens
Article 10. Sustainable use of components of Biological diversity	• Creation of opportunities and incentives for some local communities and individuals to undertake conservation and sustainable use initiatives in both protected and non-protected areas
Article 11. Incentive Measures	• Creation of opportunities and incentives for some local communities and individuals to undertake conservation and sustainable use initiatives in both protected and non-protected areas
Article 12. Research and Training	• Development and implementation of appropriate research and extension approaches in biodiversity conservation and sustainable use
Article 13. Public Education and Awareness	• Development of a clear, definite and coordinated national policy, legislative framework and implementation strategy on environmental awareness, education and training • Improvement of the understanding of the importance of biodiversity at both national and local levels an the strengthening of biodiversity initiatives at all levels • Develop a state of the environment reporting system
Article 14. Impact Assessment and Minimizing Adverse Impacts	• Formulate and implement and environmental impact assessment policy
Article 15. Access to Genetic Resources	• Enter specific international agreements regarding access to Zimbabwe's biodiversity resources
Article 20. Financial Resources	• Provision of a sustainable and readily accessible financial and institutional base to assist biodiversity projects at local level • Provision of affordable, viable and acceptable alternatives for human survival beyond existing natural resource base

Zimbabwe's biodiversity priorities above provided a good guide in formulating relevant questions that helped in the national capacity needs self-assessment with regards the UNCBD.

Zimbabwe and the UNCCD

The UNCCD is one of the conventions that recognizes the intricate relationship between poverty and the physical environment and hence calls for the integration of poverty reduction in anti-desertification efforts. Zimbabwe is a signatory to the UNCCD. The convention puts emphasis on the bottom up approach which is premised on: (1) partnerships between government and local administrators/authorities and the people living in dry lands, (2) the observation that local communities have skills to live off a fragile and dry environment, (3) recognition that local communities are the greatest asset for combating desertification, (4) the need to build the capacity of local communities if the true meaning of participation is to be realized, (5) a commitment to provide for effective participation at the local, national and regional levels, of non-governmental organizations, local populations including both women and men, in policy making, decision making and the implementation and review of National Action Program (NAP).

Zimbabwe initiated the process to develop the National Action Program on the UNCCD in 1997 with the formation of a multi-stakeholder taskforce, which led a consultative process culminating in the production of the NAP in 2001. The NAP identifies the key challenges to addressing land degradation including:

- Sustainable energy provision,
- Land use planning and soil conservation,
- Water resources management,
- Education, public awareness and capacity building,
- Provision of alternative livelihoods and poverty alleviation,
- Land tenure systems,
- Policy, legal and institutional arrangements, and
- Research support.

Stakeholder consultations during the formulation of the NAP led to the prioritization of four sub-programs namely:

- Energy management,
- Land management,
- Water management and
- Information systems.

In addition, the NAP pays particular focus on ecosystems in the country's Natural Regions IV and V, which are characterized by fragile soils, low and erratic rainfall and are prone to land degradation and frequent droughts. The above priorities and objectives of the UNCD would be achieved through a process that involves:

- Creating an enabling environment such as the development of environmental management and development policies
- Appropriate legal frameworks
- Appropriate institutional frameworks
- Appropriate planning systems

In this regard four strategies would guide NAP implementation in including:

- Strategic integrated resource management
- Action oriented approach that bridges the gap between planning and implementation
- Adaptive and flexibility to all for adjustment to meet community priority changes
- Synergies with other programs and initiative

Priority issues that the convention seeks to address are summarized in table 1.5.

Table 1.5: Priorities of the UNCCD, which apply to the Zimbabwe context

UNCCD Article	Details
Article 16: Information collection, analysis and exchange	• Ensure the collection, analysis and exchange of information to address the needs of local communities and decision makers- • Support programs at aim at collecting, analyzing and exchange of data and information including sets of physical, biological and economic indicators • Support the collection, analysis and exchange of socio-economic data and integration with physical and biological data • Exchange information on land and traditional knowledge ensuring its protection and providing for appropriate return from benefits from its use.
Article 17: Research and Development	• Protect, integrate, enhance and validate traditional and local knowledge and practices • Develop national research capability • Understand the relationship between poverty and migration caused by environmental factors and desertification
Article 18: Transfer, Acquisition, adaptation and development of technology	• Facilitate access to technologies most suitable to practical application for specific needs of local populations, paying special attention to the social, cultural, economic and environmental impact of such technology • Take appropriate measures to create domestic market conditions and incentives, fiscal or otherwise conducive to the development, transfer, acquisition and adaptation of suitable technology, knowledge, know-how and practices including measures to ensure adequate and effective protection of intellectual property rights. • At the national level, parties are urged to, according to the capabilities and prevailing legislation and/or policies protect, promote and use in particular relevant traditional and local technology, knowledge, know-how and practices.

Article 19: Capacity Building, Education and Public Awareness	• Strengthen and build appropriate institutions • Drawing of natural resource management programs at the local level • Training and Technology in the use of alternatives especially renewable energy • Training in new skills for alternatives livelihoods • Strengthen capacity to collect analyse and exchange scientific and technological information • Train decision makers managers and personnel responsible for data on food production and early warming of drought • Build capacity to acquire, adapt and develop environmentally viable and socially acceptable technologies • Promote the use of traditional and local 'technology" knowledge, know-how and practices; • Strengthen research capabilities to enhance the availability of water resources; • Build capacity to understand the interrelationship between desertification, poverty and migration • Strengthen capacity to undertake systematic observation of land degradation • Training and capacity in the field of desertification and drought • Strengthen support and extension services to disseminate relevant technology methods and technologies more effectively; • Training field agents and members of CBOs and local communities in participatory approaches for conservation and sustainable use of natural resources; • Facilitate use and dissemination of knowledge, know-how and practices of local people in technical co-operation programs • Adaptation of knowledge and technology to suit prevailing socio-economic conditions; • Training of decision makers in the dissemination of information on drought conditions and for food production; • Skills to organize awareness campaigns; • Promote access by the public to relevant information and wide pubic participation in education and awareness activities; • Develop and exchange educational and public awareness material where possible in local languages; • Encourage the establishment of associations that contribute to public awareness; • Develop appropriate school curricula and expand where needed educational and adult literacy particularly for women and girls on identification, conservation and sustainable use and management of natural resources; • Develop inter-disciplinary, participatory programs integrating desertification and drought awareness into educational systems and in non-formal adult distance and practical educational programs.

Chapter 2: Conceptual framework and methods used for the NCSA

Conceptual framework

The overall conceptual framework for capacity assessment that was adopted is at three levels, i.e., systemic, institutional/organizational and individual levels. Table 2.1 illustrates this capacity assessment conceptual framework. This framework identifies the dimensions of capacity development at each level (table 2.1). Thus, the typical guiding research questions adopted in this NCSA include:

- Capacity to do what?
- Who are the role players?
- Capacity at what level(s)?
- What capacity attributes?

Table 2.1: The conceptual framework adopted in the NCSA.

Level	Dimensions of Capacity Assessment	Dimensions of Capacity Development
Systemic Level	- Policy dimension - Social and institutional dimension - System dimension - Legal and regulatory dimension	- Policy and institutional issues (roles, responsibilities and accountability) - Vision, goals, programmes, institutions - Administration systems - Coordination frameworks
Organizational Level	- Management and, financial, human and information resource issues, infrastructure (i.e., property ,buildings, computer systems and telecommunications) - Cultural issues - Institutional issues and processes (inter-relationships and interactions between public and private sector and NGOs)	- Management capacity (for design, management & implementation of climate change issues) - Financial capacity - Infrastructure - Mechanisms for sharing geo-referenced information (Spatial data infrastructure) - Design of cooperative relationships between government levels & between public & private sector & civil society
Individual Level	- Professional and technical competence - Human resource needs - Education resources	- Educational and training programs - Continuing Professional Development programs - Virtual programs - National Education and research institutes - Workshops and seminars

Methods used in the NCSA

Within the abovementioned conceptual framework, this NCSA followed three main connected steps aimed at producing: (1) an overview of the existing situation, (2) an in depth analysis of capacity needs per convention, and (3) an assessment of capacity needs common to the three conventions, as well as a strategies and programmes to deal with the capacity needs common to the three conventions.

The first step documented Zimbabwe's priority commitments for each convention, as well as, the strategies aimed at implementing these commitments. This step was achieved through a detailed review of relevant literature relating to the priority environmental issues that are indicated in national plans for implementation of the three conventions i.e. the NAP for the UNCCD, the NBSAP for the UNCCD and the First National

Communication for the UNFCC.

The second produced a documented analysis of capacity constraints and opportunities of capacity development at systemic, institutional and individual levels for each convention (i.e., thematic profiles) as determined by interviews and meetings with key stakeholders to further analyze issues identified in the first step. Key informant interviews and a questionnaire survey for selected sample districts in Zimbabwe were conducted to fulfill this step. Questionnaires were administered to institutions and individuals that deal with the three conventions. Figure 2.1 illustrates the number and geographical spread of the respondents of the questionnaire.

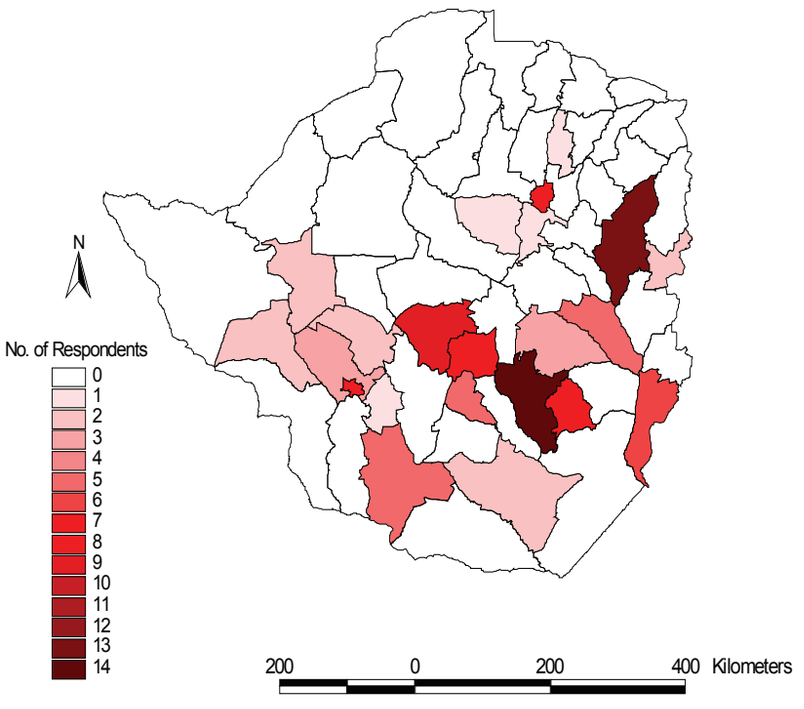

Figure 2.1: The number of respondents in Zimbabwe and their geographical distribution.

Finally, a combined analysis of the key informant interviews and the questionnaire, as well as, a workshop involving experts from various backgrounds related to environmental management was conducted to come up with an assessment of capacity needs common to the three conventions, as well as strategies and programmes to deal with the capacity needs common to the three conventions.

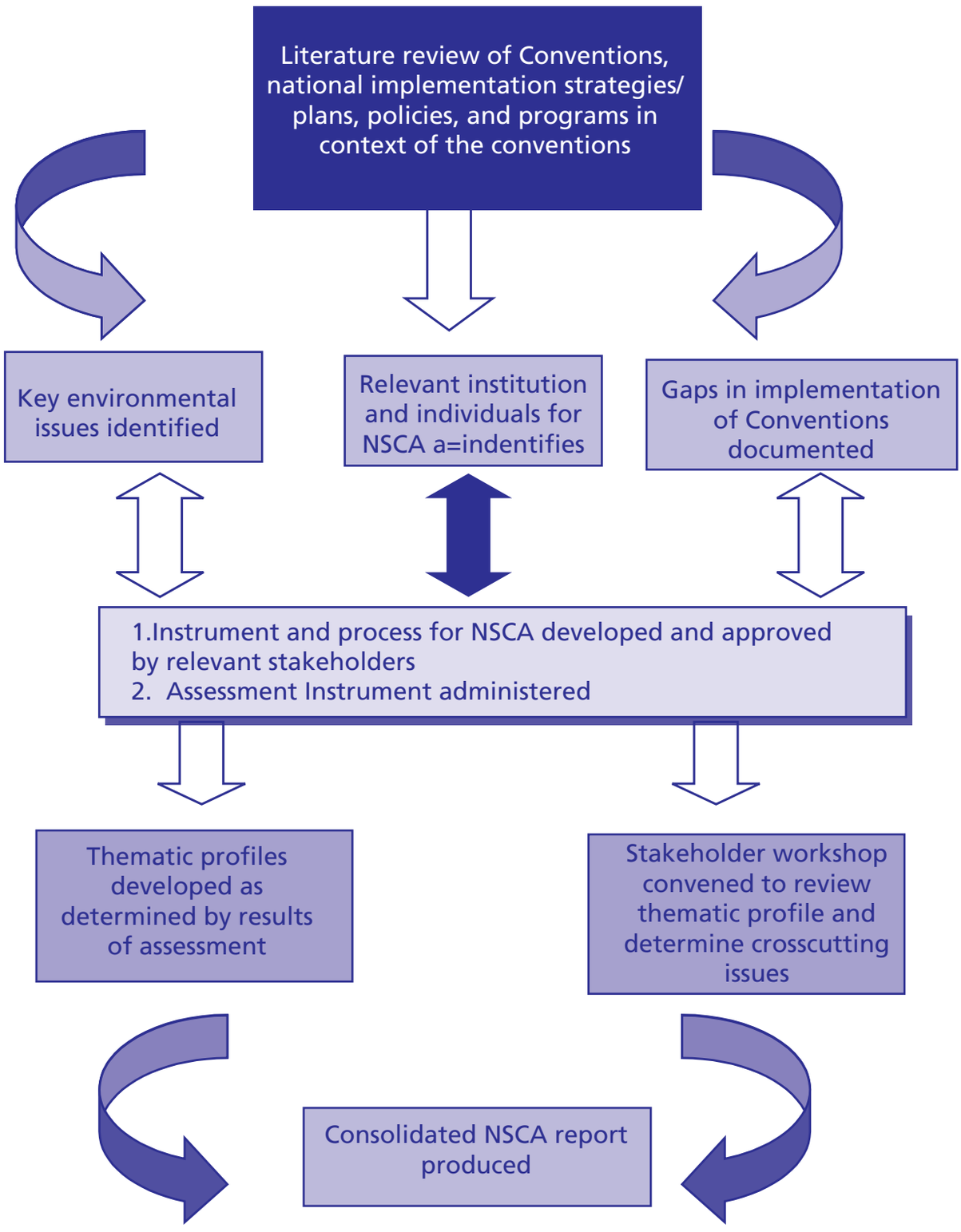

Figure 2.2: The process followed in the NCSA

Limitations of the report

In a study of this nature, it is impossible to get the views of all individuals and institutions that matter because of budgetary and time constraints
Considerable effort was made to ensure that the selected sample size and geographical spread was large enough to minimize bias in the identified national priority capacity development needs. Triangulation was used to help minimize that bias. Results from brainstorming sessions are also influenced by the knowledge, expertise and preferences of the participants.

Chapter 3: Available capacity for implementing the conventions

Available capacity for UNCBD

Enabling Environment

Zimbabwe has a long history of environmental management and as such there is a partial political, legislative and institutional framework required for the implementation of the individual conventions.

In 1987 Zimbabwe formulated the National Conversation Strategy based on the World Conservation Strategy but tailor made to suit her own environmental and socio-economic conditions. In this strategy, Zimbabwe outlined national conservation strategies to ensure that natural resources are used on a basis of sustained yield. The strategy also sought to halt environmental degradation and to rehabilitate degraded sites. Although, this strategy was not legislated, it indicated Zimbabwe's willingness to holistically manage its natural resources including its biological diversity. The NCS was aptly called Zimbabwe's Road to Survival because Zimbabwe's sectoral economies heavily rely directly on the resource base for their continued prosperity. The NCS highlighted the countries five natural agro-ecological region and emphasized the need to recognize and ensure that land husbandry/use practices suit the biophysical condition of the natural regions including their soil, vegetation and climate. It also pointed out the land is a finite and fragile resource, which should be sustainably managed through its use for the most productive purpose it can sustain. In consequence the management and conservation of land should be vigorously promoted through extension and education for farmers. In addition the NSC stressed that people are a major economic resource in that without the human hand little resource utilization or economic development could happen. Among the key components of the NCS was the preservation of genetic diversity.

Even before the formulation of the NCS Zimbabwe had already a legislated system of in situ and ex situ conservation strategies based on three main sectors: Wildlife, Forestry and Agriculture. The in situ conservation strategy mainly consists of a network of national parks established through the National Parks and Wildlife Act, gazetted forest areas under the Forest Act, as well as areas of endemism gazetted under the Natural Resources Act. In addition, a network of botanical reserves and seed banks that serve ex-situ conservation was established. The National Parks and Wildlife Act empowered local communities and private landowners to sustainably utilize wildlife resources within their areas. 15% of the country's land surface is under protected area designated as National Parks (13%) and Forest Land (2%). It is estimated that another 15% is under privately managed wildlife conservancies.

Zimbabwe was one of the first countries to sign and ratify United Nations the Convention on Biodiversity (UNCBD). Zimbabwe signed the CBD on 12 June 1992 and ratified it on 11 November 1994.
In 1997 Zimbabwe formulated its Environmental Impact Assessment (EIA) Policy (Ministry of Mines Environment and Tourism, 1997). An EIA ensures that decision-makers are provided with information on the environmental costs and benefits of a development project that complement information on its technical and economic feasibility.

In 1998 Zimbabwe prepared a National Biodiversity Strategy and Action Plan (NBSAP) (Ministry of Environment and Tourism, 1998). This involved analysis of the status and trends in biodiversity management in the three main sectors of biodiversity management; the forestry, wildlife and agricultural sectors. The analysis of the status and trends resulted in the identification of eight unmet needs in Zimbabwe's biodiversity strategy (Ministry of Environment and Tourism, 1998). It is these unmet needs that resulted in the formulation of eight main strategies and action plans to be pursued after 1998.

The government of Zimbabwe enacted the Environmental Management Act in 2003. This was part of the law reform process to deal with problems associated with the administration of at least 18 pieces of legislation on the environment, which are housed in nine different ministries and departments. The Act contains measures which the Minister may take in to ensure conservation of and

access to biological diversity. The measures are also necessary for the implementation of Zimbabwe's obligations under the United Nations Convention on Biological Diversity. The Act specifies regulations to control or restrict access to the biological and genetic resources of Zimbabwe. The regulations to control invasive alien species are also enshrined in the Act. The Environmental Management Act of 2004 provides for cascading the responsibility to manage the environment holistically. Based on the strength of the Environmental Management Act there is an opportunity to develop policy guidelines that will constitute an agreed system for (i) inventorying traditional systems and practices and (ii) legally protecting traditional knowledge systems and practices and (iii) promote benefit sharing.

UNCBD Stakeholder Analysis

There are four categories of institutions involved in biodiversity resources and the promotion of their sustainable use in the country. These are The National Biodiversity Forum, Government Departments or agencies, non-governmental organizations and academic institutions

The National Biodiversity Forum

As part of its implementation of the Convention on Biological Diversity Zimbabwe established a National Biodiversity Forum. The National Biodivesity Forum is a voluntarily constituted group of stakeholders from Government Agencies, Universities, NGOs and the private sector whose terms of reference are to:

- Advise on national positions to be taken on specific issues raised at COP meetings
- Receive and consider and facilitate further debate on CBD related meetings and to be continuously updated on the implementations of any follow-on issues, projects and programmes
- Maintain a register of organizations and individuals that attend CBD related meetings and facilitate the sharing of outcomes from such meetings with other stakeholders
- Receive and comment on reports on project related to the CBD being implemented in the country
- Review the country's biodiversity strategy document in view of emerging issues
- Compile periodic progress reports on Zimbabwe's implementation of CBD related issues
- Receive and consider Forum Working Groups and forward policy related matters to the Ministry of Environment and Tourism, which is the focal point for the CBD.

The Forum consists of the following working groups:

- Forest biodiversity;
- Ecosystem approach,
- Agro-biodiversty
- Biosafety.

Among other things the Forum Working Groups review the work programmes emanating from COP meetings; encourage co-ordination among institutions and individuals working on related biodiversity projects and generate project ideas for possible funding under the Global Environmental Facility (GEF). The Ministry of Environment and Tourism and the Biodiversity Office under MET serves as the secretariat to the Forum chair the NBF.

Government Agencies

The key national agencies with statutory mandates to promote natural resources conservation and sustainable use are shown in the table below.

Table 3.1 Stakeholders involved in the Biodiversity sector (Adapted from ART (undated))	
INSTITUTION	**MANDATE**
Ministry of Environment and Tourism	Sustainable management of natural resources and the protection of the environment
Parks and Wildlife Authority	Conserving Zimbabwe's wildlife heritage through effective and efficient sustainable utilization of natural resources for the present and future stakeholders
Forestry Commission	Promoting the sustainable management of the nation's forest resources through research, extension, conservation and training
National Herbarium and Botanic Gardens	Promoting the conservation, development and sustainable use of Zimbabwe's flora
Rural District Councils	Promoting sustainable managements of the environment outside state protected areas
Ministry of Agriculture	Generate agriculturally related technology, crop and livestock breeding, training and extension
Environment Management Agency (EMA)	Provide holistic approach to environment management in order to support sustainable development
The Natural History Museum	Repository of the nation's flora and fauna specimens

Non- Governmental Organizations

A number of NGOs are involved in the conservation of natural resources in the country and are involved mainly in community empowerment and enterprise development marketing of natural resource products. The table below lists some of the NGOs involved in biodiversity conservation in Zimbabwe.

Table 3.2 UNCBD NGO Stakeholder Analysis (Modified from Africa Resources Trust (ART) (undated))

ORGANISATION	AREA OF FOCUS
Action Magazine	Community education and public awareness
Biodiversity Foundation for Africa	Research
COMMUTECH	Community technology development
Environment Africa	Awareness campigns, education lobbying
CAMPFIRE	Community management of and benefits from wildlife resources
Southern Alliance for Indigenous Resources (SAFIRE)	Enterprise development based on nontiber forest products, skillsdevelopment market promotion
Africa 2000 Plus Network	Rural development and poverty alleveiation
World Wide Fund for Nature	Community based natural resources management
Zimbabwe Traditional Healers Association	Research on traditional medicines, promoting and protecting indigenous medicinal knowledge and practices in the country
Centre for International Forestry Research (CIFOR)	Promoting adaptive co-management of forests
Intergrated Technology Development Group(ITDG)	Promoting appropriate agricultural technology
Zimbabwe Trust	Community empowerment
Zambesi socity	Research and community empowerment
Wildlife and Environment Zimbabwe	Promoting awareness on wildlife conservation
Malilanger Conservation Trust	Conservation, public awareness research and tourist development
Save Conservancy	Conservation, pubilic awareness research and tourist development
National Biodiversity Forum	Advises MET on biodiversity issues

Academic Institutions

The country has a number of colleges and universities capable of building capacity in conservation and management of biological resources. These include

Technical Colleges

- Chibero, Gwebi Mlezu etc Agricultural colleges
- Zimbabwe College of Forestry
- Mushandike Wildlife Management College

Universities

- University of Zimbabwe
- Midland State University
- Solusi University
- Africa University
- Great Zimbabwe University
- Catholic University
- National University of Science and Technology
- Lupane University
- Zimbabwe Open University

Despite the enormous role academic institutions play in the country they are faced with challenges of poor funding , as well as poor staff retention .

Local Level Institutions

The Rural district council formulates district specific by laws including for the protection and management of natural resources. Such by laws are can only be effective if communities including traditional leaders are involved in their formulation and taking responsibility for their implementation. However the councils are not well informed and educated about the law and how best to use it to their advantage . The way forward is for councils to be aware of the importance of conservation and sustainable use of natural resources and should have faith in their ability to interpret the law and develop district specific by laws through participatory approaches (ART, undated.)

Under the EMA Rural District Councils should establish Environmental Commitees in order to have full responsibilities for the conservation of land and biodiversty under their jusrisdictions. However the committee should work very closely with traditional leaders and relevant government agencies who will provide technical oversight and backstopping.

.

Programmes and Projects

The country has several programmes for the conservation and sustainable use of the components of biological diversity.

The Campfire, Social Forestry and TBNRM programmes in most rural areas places a lot of emphasis on capacity building and benefit sharing so as to enable the local communities to manage and benefit from their natural resources. The Campfire programme promotes the conservation and sustainable use of wildlife and other natural resources outside protected areas. This has led to the extension of the range of wildlife species beyond protected areas into rural areas / communal areas by as much as 17%. The Social Forestry programme is also promoting community-based use of non-timber forest products. These initiatives are contributing successfully to Millennium Development Goals. However there is need to set up a framework for monitoring this.

The country promotes awareness on tourism needs in the country. There is a tourism policy under development. There has been an input of key stakeholders including indigenous and local communities. Capacity building for indigenous and local communities is done within the CBNRM framework. Local communities are involved in local development planning through the auspices of local authorities.

The country also has some programmes for the ex situ conservation of species of both fauna and flora. The National Herbarium and Botanical Garden in Harare has over 500 000 plant specimens. It is the main reference centre for the indigenous plants of Zimbabwe. The Botanical garden also has over 900 trees and shrubs of Zimbabwe grown in groups to show ecological associations. There are also ex situ conservation programmes for threatened species of fauna such as the black rhino and the black dog.

The country has a network of protected areas that serve as the core for conservation programmes in rural areas. Legislation allows landholder control over and benefit from biodiversity resulting in a successful conservation movement. However protected areas (PAs) were set-aside largely on the basis that the areas were marginal to agricultural and industrial development. Unfortunately threatened species were not targeted. There is need to rectify this especially in communal and resettlement areas. The land reform programme that has taken place is creating an opportunity for more people to benefit from natural resources. In some cases this has led to a negative impact on natural resources. Its impacts need to be assessed. The country has programmes to identify components of biodiversity but for a long time focus has been at the species level. Government conservation departments and other organizations have focused primarily on species of economic importance and on threatened species. In the Forestry sector focus has been on species such as Baikeaea plurijuga(teak), Pterocarpus angolensis (mukwa), Afzelia quanzensis(mukamba), etc. In the wildlife sector focus has been on the elephant, buffalo, the lion, cheatah, leopard, etc.

The Ministry of Environment and Tourism is implementing the Traditional Medicinal Plants Project, which is promoting, the sustainable use of medicinal plants in five Districts, benefit sharing and the in situ conservation of threatened medicinal plants. In addition the country is finalizing an instrument on sui generis legislation entitled "Access to Genetic Resources and Traditional Knowledge Systems. This will encourage the equitable sharing of benefits arising from the utilization of indigenous knowledge, innovations and practices.

On agro-biodiversity the country is promoting the conservation and sustainable utilization of plant genetic resources for food and agriculture. The 'Zunde RaMambo' (The Chief's Silo) concept recognizes the role of traditional leaders in grain storage schemes. The leaders have the role to make sure that the goals are achieved. This concept is also being extended to tree planting programmes to recognize traditional leaders in tree planting and hence maintenance of biodiversity. Through the traditional leaders the local communities are encouraged to leave seed trees or seed stands in their natural habitats. In addition communities are being empowered to produce and market open pollinated seed varieties. This is making maize seed cheaper and more available. Regarding communication, education and public awareness training programmes are in place through colleges and universities. Extension staff and communities are also trained through field days, workshops and exchange visits.

Available Capacity for UNCCD

Enabling Environment

From a legal and policy perspective, Zimbabwe has sufficient capacity to address land degradation and drought. Several legal provisions are in place to manage and reduce land degradation. An assessment of the level to which key legal instruments address the needs of the UNCCD was undertaken through the UNCCD focal point i.e. the Environmental Management Agency and revealed the following:

Program/Strategy/Statute	*Recommended level by focal point*
Environmental Management Act	3.5
Rural Electrification Act	3
Traditional Leaders Act	3
Environmental Policy	3.5
Drought Management Policy	3
Renewable Energy technologies	3
Vision 2020	2
Economic Revival Program	2
Poverty Alleviation Action Program	2
Fast Track Resettlement Program	1
Agrarian Reform Program	3
Millennium Development Goals	2.5
National Response to JPI	3.5+

Key

Level of address: 0 – not at all; 1 – marginally, 2 – satisfactorily, 3 –comprehensive 4 – fully incorporated in its entirety?

Institutional mechanisms in place to ensure the implementation of the UNCCD.

The Government of Zimbabwe appointed Ministry of Environment and Tourism (MET), the national coordinating ministry to oversee and spearhead the implementation of the UNCCD. The Department of Natural Resources, now integrated within the Environmental Management Agency, within MET was appointed the programme's implementing agency.

An interagency national taskforce was established in December 1996 provides advice on the preparation and implementation of the NAP and the UNCCD. Membership of the National Taskforce on Desertification is drawn from relevant government agencies, NGOs, private sector, University of Zimbabwe, Association of Rural District Councils and donors. DNR also serves as the secretariat to the National Taskforce. Thus at national level, the National Taskforce chaired and coordinated by MET has overall policy making responsibilities and regularly review progress.

At provincial, district and ward levels the NAP process makes use of institutional arrangements that have been established under the District Environment Action planning Program (DEAP), a program also being implemented by MET. This arrangement has been made in the interest of partnership building and linkages with other programs at provincial level, a Provincial Strategy Team (PST) with membership drawn from Provincial Development Committee (PDC) and other stakeholders is responsible for facilitating the implementation of the program in their respective provinces. The PST reports to the Provincial Development Committee (PDC). Where necessary the PST draws training programs for district, ward and community strategy teams. At district level, District Strategy Team (DST) with membership drawn from government and NGOs staff operating in the district is responsible for facilitating NAP process implementation. The DST reports to the relevant sub-committee of the Rural District Council (RDC). At ward level, Community Strategy Teams (CST) comprising all stakeholders at ward level and reporting to the Ward Development Committee (WADCO) is the facilitator of the NAP process at the community level including program implementation.

The National Action Program for Zimbabwe

Zimbabwe initiated the process to develop the National Action Program on the UNCCD in 1997 with the formation of a multi-stakeholder taskforce, which led a consultative process culminating in the production of the NAP in 2001. The NAP identifies the key challenges to addressing land degradation including, sustainable energy provision, land use planning and soil conservation, water resources management, education public awareness and capacity building, provision of alternative livelihoods and poverty alleviation, land tenure systems, policy, legal and institutional arrangements and research support. Stakeholder consultations led to the prioritization of four sub-programs namely: energy management, land management, water management and information systems. In addition, the NAP pays particular focus on ecosystems in regions IV and V, which are characterized by fragile soils, low and erratic rainfall and are prone to frequent droughts and land degradation.

Projects and Programs

A total of twenty-five (25) community projects have been implemented in the context of the UNCCD. The types of projects implemented include:-

- Land and wetland rehabilitation and protection
- Ostrich farming
- Small scale irrigation focusing on horticultural production
- River/dam catchments rehabilitation
- Grazing schemes aimed at improved veldt management and livestock production
- Water conservation (small dams, boreholes and wetlands/springs rehabilitation

Community projects generally focus on land

rehabilitation, drought mitigation and poverty reduction. Water provision received priority in project support because water has been identified as a limiting resource in community efforts to initiate income-generating projects. It also facilitated the fulfillment of one of the convention objectives of drought mitigation. Most of the projects funded are in the drier parts of the country where land degradation and drought are more pronounced.

A schools program was initiated with the objective of educating teachers and school children on UNCCD issues, and on how schools can play a meaningful role in drought mitigation and land degradation control. The school program was implemented in both urban and rural schools in Kwekwe District in partnership with the Kwekwe Environment Education Committee (KEEP) and Plan International. Thirteen (13) schools participated in the program. Each school has helped with funds to establish vertiver a nursery, which was used for education purposes and for reclaiming, degraded lands in and around the schools. Each school has a community outreach program where vertiver grass is supplied to communities for land and gully reclamation.

Available capacity for UNFCCC

Available capacity for implementation of the UNFCCC is assessed from milestones achieved and capacity development initiatives implemented.

Enabling Environment

The Ministry of Environment and Tourism (MET) administers and implements the UNFCCC in Zimbabwe, supported by a multi-sectoral National Steering Committee on Climate Change. Various other national institutions, universities, research organizations, industry associations and NGOs, provide technical input. The MET co-ordinates, convenes and chairs technical meetings for the different task forces assigned to produce the National Communication. The Ministry of Environment and Tourism has also established a Climate Change Office with a full time Co-coordinator and a secretary. The Climate Change Office is mainly funded from external funds with the Government of Zimbabwe providing in kind support such as office space and furniture as well as other recurrent costs. The Climate Change Office and the National Climate Change Committee form the core of climate change activities in Zimbabwe (Figure 3.1).

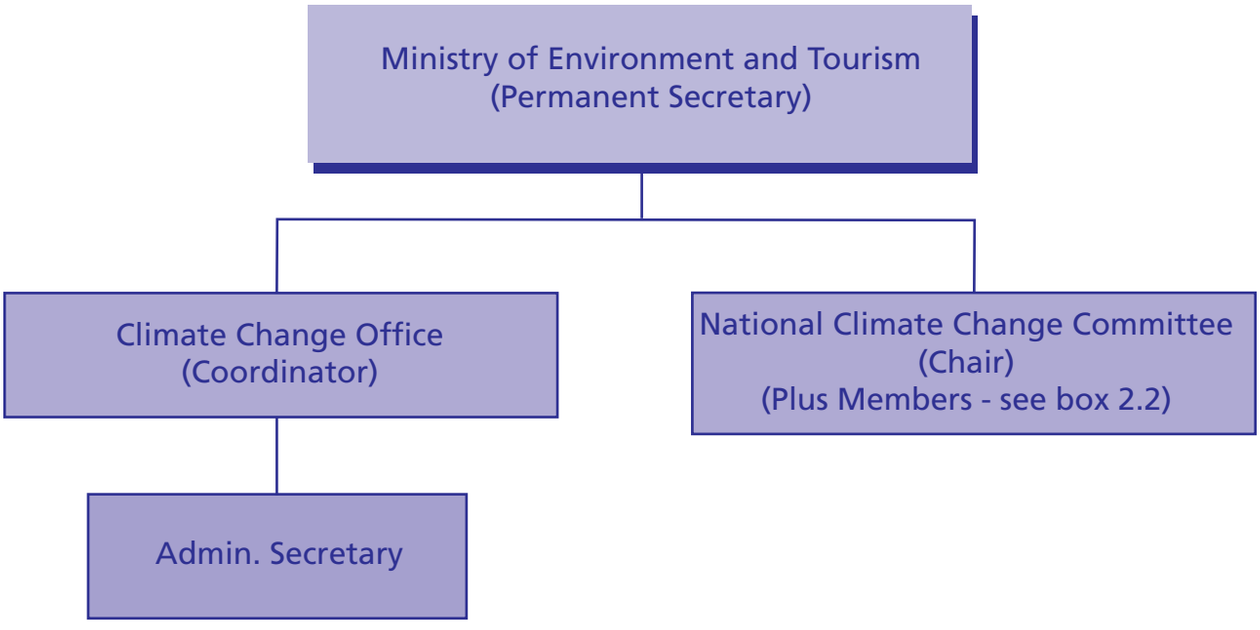

Figure 3.1: Institutional arrangements for implementation of UNFCCC in Zimbabwe.

The NCSA process established that although some institutional arrangements for UNFCCC implementation exist in the country, more needs to be done to formalize the institutions and have clearly defined mandates/ responsibilities of stakeholders (Figure 3.2).

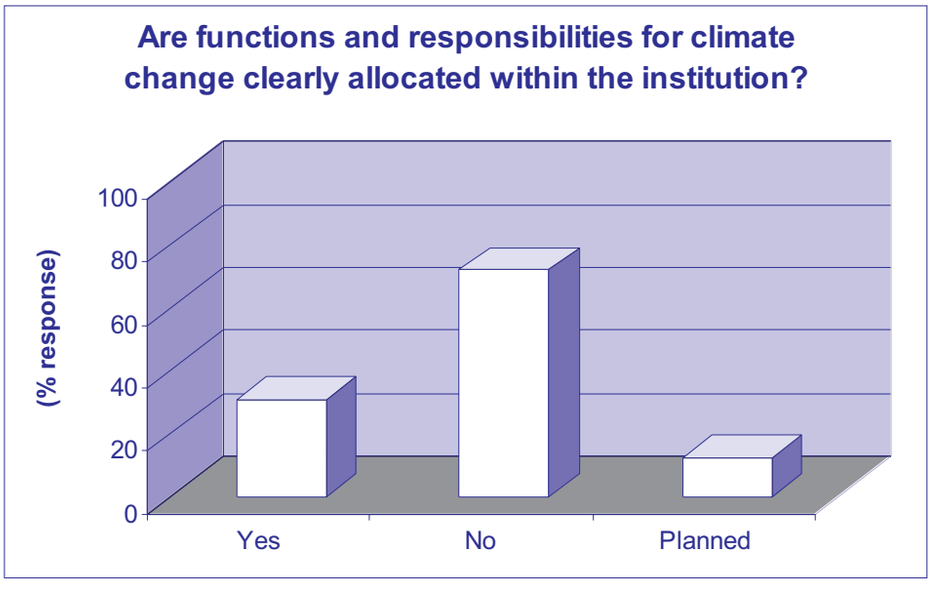

Figure 3.2: Analysis of management capacity across surveyed institutions

National Communications for the UNFCC

In 1997, Zimbabwe started working on its Initial National Communication under the UNEP/GEF Enabling Activity Programme. The Climate Change Office under the Ministry of Environment and Tourism executed the project.

National Climate Change related programs

A cross-section of programs has been implemented in response to national socio-economic development challenges and is identified as being relevant to mitigation of GHG emissions and adaptation to climate variability and change in Zimbabwe. Boxes 3.1 and 3.2 capture examples from document review.

I. MITIGATION

Box 3.1 Examples of climate change mitigation initiatives in the country

Sector	Milestones
Agriculture	- NGOs have supported biogas digesters in communities - Research to improve livestock diet and genetics - Reserve Bank, Arex, NGOs assisting farmers to enhance productivity of lands - Legislation to protect the environment
Forestry	- Environmental management legislation promulgated. - Institutions in charge of the environment and forestry in place - NGOs and Forestry Commission supporting tree planting - Local leadership helping to protect forests - Tree planting a national event
Industry and Energy	- Most companies adopting environmental policies - Rural electrification rolled out - Solar energy projects rolled out with UNDP support mostly in rural areas - Solar hot water systems introduced - More efficient coal-fired industrial boilers and industrial furnaces
Transport	Carbon tax introduced

II. ADAPTATION TO CLIMATE VARIABILITY AND CHANGE

Specific interventions to reduce the risk of disasters from climate change depend on the sector and climate change impact of concern. A number of initiatives aimed at mitigating the impacts of drought have been implemented in the country. These are summarized in Box 3.2.

Greenhouse gas inventories

The Initial National Communication captures Zimbabwe's GHG emissions by sector for the period 1990-1994. The emissions profile for the country shows that total GHG emissions for the country in 1994 was a net sink of – 45 180 Gg. However, the report raises some GHG monitoring capacity issues.

Research and systematic observation

In Zimbabwe, climate monitoring falls under the responsibility of the Department of Meteorological Services. This monitoring is done through daily meteorological observations. Available climate records stretch as far back as 1890 for rainfall for some stations. The country has a network of about 66 stations and more than 1000 rainfall stations. Hydrological observations fall under the responsibility of the Zimbabwe National Water Authority, which has records of river flow and dam levels.

Carbon sinks

The Forestry Commission under the Ministry of Environment and Tourism monitors the extent of forests and deforestation in the country.

Box 3.2 Examples of adaptation initiatives in the country

Sector	Milestones
Agriculture and Food security	- Research and practices have been developed for marginal rainfall areas to include: improved crops and livestock for drought, seedbed preparation, soil fertility improvement, moisture conservation, & conservation farming. - Promotion of best agricultural management practices (including, optimum planting dates, crop choices, planting density, application of fertilizers, insecticides and herbicides). - Change timing of farm operations - Vulnerability and adaptation assessments - Early warning systems established
Water	- Water harvesting and storage infrastructure well developed - Water managers have experience adapting to change. - Integrated water resources management
Industry and Energy	- GEF/UNDP funded photovoltaic pilot project. - Little capacity to deal with current problems (climate change beyond their means) - Lack financial resources, weak institutions, inadequate planning capacity
Economic planning	- Drought always budgeted for albeit for response - Irrigation development fund established by Government

Chapter 4: Capacity needs per convention and opportunities to develop capacity

United Nations Framework Convention on Climate Change (UNFCCC)

The Ministry of Environment and Tourism (MET) administers and implements the UNFCCC in Zimbabwe, supported by a multi-sectoral National Steering Committee on Climate Change. The National Steering Committee on Climate Change reports to the Ministry of Environment and Tourism and is chaired by the same Ministry. Various other national institutions, universities, research organizations, industry associations and NGOs, provide technical input. The MET co-ordinates, convenes and chairs technical meetings for the different task forces assigned to produce the National Communication. Eight key capacity constraints that Zimbabwe needs to address to effectively implement the UNFCCC requirements were identified at systemic, institutional and individual levels:

Systemic level capacity constraint

The first capacity constraint relates to policy implementation and analysis.
Results of this NCSA indicate current legislation is based on the archaic "command and control" instead of basing on incentives and penalties (carrot and stick). In this regard, incentives and disincentives such as carbon taxes and emission fines should be introduced to encourage the enhancement of a safer environment. Enhancement of the capacity of institutions to formulate evidence based policies, policy analysis and implementation was underscored.

Institutional and individual level capacity constraints

The second capacity constraint relates to generating, packaging and disseminating information about climate change and the UNFCCC. The results of this NCSA indicates a low awareness of the existence of climate change, let alone its causes or possible redress mechanisms. The questionnaire survey results indicate that up to 42 % of the respondents rank their level awareness of the UNFCCC as low while only 18 % rank their level of awareness of the UNFCCC as high (figure 4.1). In this regard, MET is required to mount information campaigns in line with the UNFCCC

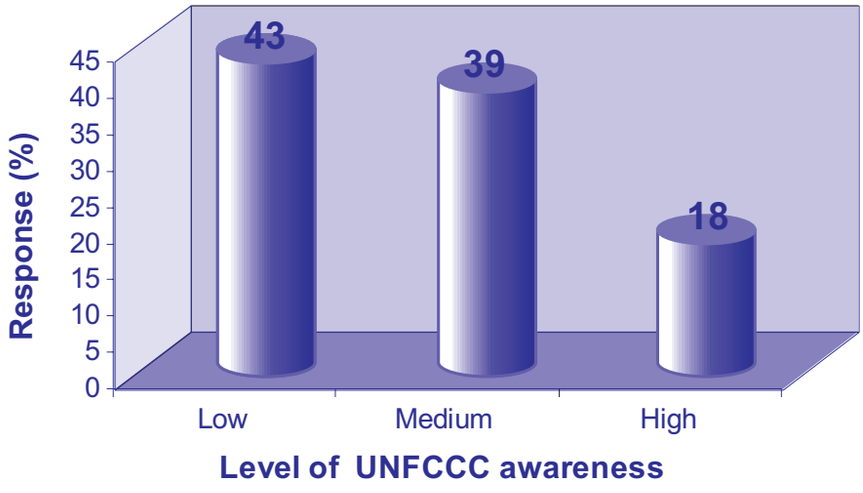

Figure 4.1: The level of awareness of the UNFCCC among the respondents of the national questionnaire survey

The third capacity constraint relates to climate change related project development for local situations. It was found out that there are insufficient proposals for projects on climate change, especially the ones that are in line with local needs and situations. To resolve this constraint, MET is asked to compile a booklet on project formulation techniques to allow fast and easy drafting of project proposals.

The fourth constraint relates to research and development capacity among local scientists and research institutions. Results of the questionnaire survey show that only 11 % of the surveyed institutions conduct climate change related research, indicating a severe lack of climate change related research in Zimbabwe (figure 4.2). This finding is consistent with the results of the national workshop on climate change which indicate a strong need to strengthen research in, forecasting technologies, climate models and adaptation and mitigation options.

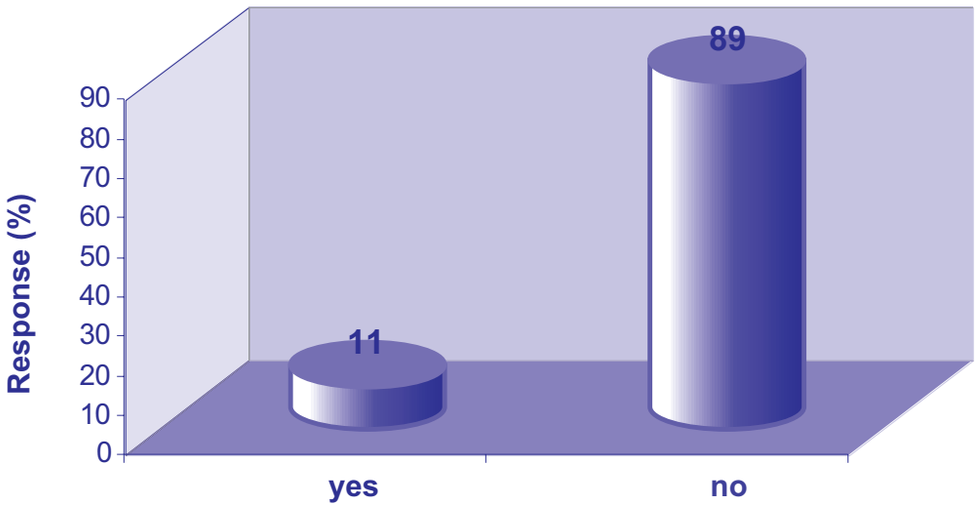

Figure 4.2: The state of climate change related research in Zimbabwe based on the questionnaire survey

The fifth constraint relates to lack of education and training programs consistent with the UNFCCC. This NSCA identified limited environmental education as a capacity constraint that hampering the successful implementation of the UNFCCC in Zimbabwe. Thus, environmental education needs to be promoted at all levels of education, primary, secondary and tertiary levels.

The sixth constraint identified for UNFCCC relates to lack of capacity for systematic inventorying of greenhouse gases and ozone-depleting gases. Obtaining up-to-date and reliable data on greenhouse gases in Zimbabwe is a problem. This observation is also supported by the First National Communications. This is also consistent with the results of the questionnaire survey, which indicate that only 4 % of the respondents of the questionnaire survey say that they have at least carried out a GHG inventory while 96 % indicate that they have not carried out a GHG inventory (figure 4).

Summary

Zimbabwe's priority under the UNFCCC is adaptation to climate change. Barriers to implementation of the convention are analyzed at three levels: individual, institutional and systemic levels.

Table 4.1 Summary priority capacity development needs under UNFCCC

Level	Capacity need
Systemic	▪ Develop skills for integrated policy development, implementation and analysis ▪ Develop capacity for coordination across conventions ▪ Facilitate the acquisition, adaptation of technology ▪ Facilitate the Dissemination of Best Practice
Organizational	▪ Develop climate change Office into an institution. ▪ Enhance information generation, packaging and dissemination capacity ▪ Develop and implement focused programs on environmental research ▪ Strengthen ICT ▪ Strengthen Strategic Planning and Integrated Approach to project delivery ▪ Develop technical capacity in environmental monitoring and reporting
Individual	▪ International negotiation and diplomatic skills ▪ Enhance skills in ICT ▪ Enhance skills in project management ▪ Build expertise in GIS and RS ▪ Enhance skills in participatory planning ▪ Develop research and development skills

United Nations Convention Biological Diversity (UNCBD)

Despite Zimbabwe's excellent biodiversity management track record, there is still some capacity constraints related with the implementation of the UNCBD requirements. In 1998, during the formulation of Zimbabwe's Biodiversity Strategy and Action Plan (NBSAP), eight capacity constraints or gaps were identified and detailed related strategies were formulated to remove the constraints and effectively implement the key requirements of the UNCBD. In this NCSA, we aimed to establish an overview of capacity constraints to implement the key requirements of the UNCBD while relating these capacity aspects back to what was identified in 1998 as constraint in order to learn from the past. In this NCSA eleven capacity constraints were identified and they are detailed below:

Systemic level capacity constraints

The first capacity constraint relates to the inadequate representation and mandate of the National Biodiversity Forum (NBF) as an instrument to fulfill the requirements of the UNCBD. In 1999 the Biodiversity Office set up the National Biodiversity Forum (NBF). Membership of NBF is drawn from relevant individuals from government, Non Governmental Organizations, Universities and the private sector that deal with biological diversity issues. Some of the functions of the NBF are to: advise the Biodiversity Office on national biodiversity issues; assess reports produced by consultants on biodiversity issues; and use national experiences to assist in policy formulation. The main problem is that the most of these duties are voluntary and are carried out on the basis of social responsibility, making the NBF less effective. In order to make the NBF more effective there is need to give it more responsibility and broadening the scope of representation and involve the local communities to participate.

The second capacity constraint relates to poor institutional coordination and negotiation skills and expertise for the implementation of the UNCBD requirements. At present, MET is the National Focal Point (NFP) for the UNCBD. However, institutional coordination of biodiversity issues in Zimbabwe remains a challenge, because of the sectoral nature of biodiversity management. In particular biodiversity is managed under different sectors such as Forestry, Wildlife, Inland Water Systems (incl. fisheries) and Agriculture with different mandates. Although the MET should facilitate and implement the UNCBD across sectors and mandates, it does not have the facilities to integrate information from the different sectors in order to effectively coordinate biodiversity issues in the country as well as negotiate in regional and international fora on behalf of Zimbabwe.

MET could be assisted by a more representative and institutionalized NBF whose membership is drawn from all the relevant sectors and members are encouraged to take responsibility and ownership of the coordination process. In other words should have the capacity and responsibility to empower contact points to stimulate interaction within their organizations and other agencies. The work of the contact points should be recognized/ appreciated by the highest echelons of the respective organizations they are representing. In addition, MET should be capacitated to facilitate the coordination of biodiversity issues in the country and negotiate in regional and international fora on behalf of Zimbabwe through the implementation of an integrated information system on biodiversity, particularly through an information clearing house mechanism (CHM). On the other hand, the sectors and ministries should be capacitated to feed into this integrated biodiversity information system. The CHM will enable various institutions to stay informed on the type, quality on the information available in the country and the conditions for accessing and using that information

The third capacity constraint relates to Zimbabwe's unrepresentative conservation framework for the implementation of the UNCBD requirements. Zimbabwe established a well developed conservation framework even before the UNCBD was negotiated and ratified. However, Zimbabwe established a network of Protected Areas (PAs) in the country largely in areas that were considered marginal to agricultural and industrial development. These PAs

are not representative of all biodiversity types, since many endemic and threatened species are outside formally protected areas. In this regard areas other than marginal areas need to be considered for biodiversity conservation. These areas might include the proposed biodiversity hotspots in the NBSAP.

The fourth capacity constraint relates to the weak enforcement of environmental legislation related to biodiversity management. Although, the environmental legislation in Zimbabwe is very supportive to the management and monitoring biological resources, the enforcement of legal instruments is rather weak and this may lead to continued biodiversity loss. Thus, there is a need to regularly strengthen institutional and legal frameworks for implementing biodiversity initiatives.

The fifth capacity constraint relates to the absence of legislation that give guidance on conditions that should be attached to such collaborative arrangements with regards to access to genetic resources and biotechnology. Although Zimbabwe has developed a framework to promote access to genetic resources at different levels, co-operation has taken place on an ad hoc basis. There is no legislation to give guidance on conditions that should be attached to such collaborative arrangements. On the other hand, the handling of biotechnology and distribution of benefits is a new area in terms of Zimbabwe's conservation efforts. Thus, there is a need for strong capacity in regional and international collaboration since the technology often has influence beyond national boundaries.

The sixth capacity constraint relates to limited financial capacity for the purposes of fulfilling the key requirements of the UNCBD. At present, there are many competing needs for the country's finances. Government funding for biodiversity conservation effort is decreasing and in addition bilateral donor funding has dwindled and when it comes it usually prescriptive and short term. Since most funding for biodiversity related programmes is only coming from the Global Environmental Facility (GEF), there is need for the development of innovative financing mechanisms to provide a sustainable and readily accessible financial base to support biodiversity initiatives. Mechanisms for a more inclusive, negotiated decision-making process around funding policy is essential to strike a balance between donor's wishes and communities' needs

Institutional and individual level capacity constraints

The seventh capacity constraint relates to poor information and awareness about the UNCBD at institutional and individual levels. Awareness is a key capacity measure, for where awareness is weak or absent no implementation of any intended programme takes place. Thus, inadequate environmental awareness, education and training at various stakeholder levels were cited as one of the major capacity constraints in the NBSAP. Figure 4.3 illustrates the levels of awareness of the respondents to the UNCBD among the three main biodiversity management sectors in Zimbabwe, as well as the other institutions not belonging to any of the three sectors.

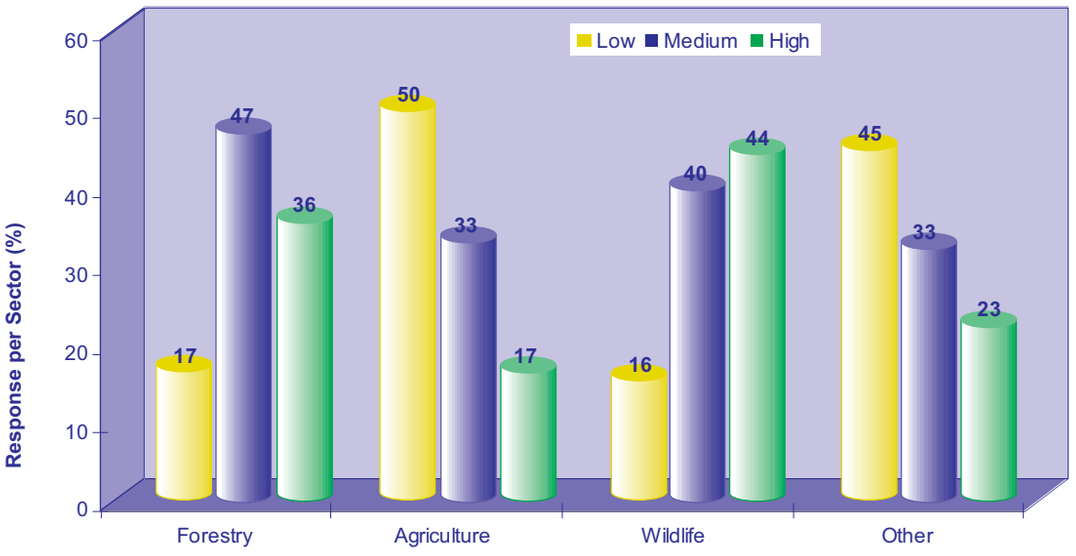

Figure 4.3: The levels of awareness of the UNCBD requirements among the biodiversity management sectors.

The results indicate that the 'traditional' biodiversity sectors, i.e. the wildlife and forestry sector show the highest awareness of the UNCBD although not hundred percent (fig. 4.3). This could be mainly due to the fact that the conserving and sustainably managing biodiversiry falls within the institutional mandates of the people interviewed.. However the sector with the highest impact on biodiversity, i.e., the agricultural sector shows the lowest levels of awareness of the three main sectors of biodiversity management in Zimbabwe (fig. 4.3). Other institutions outside the three biodiversity related sectors show even higher levels of awareness than the agricultural sector. Thus, the questionnaire results (fig. 4.3) indicate that awareness about the UNCBD needs to be strengthened, especially in the agricultural sector. Lack of information, poor information dissemination methods and lack of expertise in institutions were cited some of the reasons for low levels of awareness.

The results suggest that information has to be disseminated by the biodiversity NFP so that awareness levels of the existence of the UNCBD and their obligation to biodiversity are raised. A closer analysis of the respondents who cited the UNCBD as non-core to their business showed that they belong to the Forestry, Agriculture, Education and Mining sectors. However, environmental issues, particularly biodiversity issues are touching all these institutions and awareness of the UNCBD is of paramount importance.

The eighth capacity constraint relates to the lack of biodiversity inventory and monitoring programmes. Biodiversity inventory and monitoring programmes are critical for the conservation and sustainable utilization of biodiversity. This need is articulated in Article 7 of the UNCBD. Findings in the NBSAP of 1998 note that the absence of comprehensive and elaborate biodiversity inventory and monitoring programmes is a major capacity constraint in meeting the requirements of the UNCBD by Zimbabwe. This study reveals that only 47 % of the institutions conduct inventory and monitoring programmes of biodiversity at ecosystem level while only 38 % conduct inventory activities at species and genetic levels.

A closer analysis of the state of inventory and monitoring activities by biodiversity sector indicates that the highest proportion of inventory and monitoring activities are in the wildlife and forestry sectors fig 4.4. The agricultural sector scores lowest in biodiversity inventory and monitoring at ecosystem

level fig 4.4. At the species and genetic levels, it is only the forestry sector where there is a relatively higher level of inventory and monitoring activity fig 4.5. The agricultural sector scores lowest in the inventory and monitoring activity fig 4.5

These percentages by themselves do not necessarily mean that there are insufficient programmes of biodiversity inventory and monitoring happening in Zimbabwe but it might be a case of the paucity of information on inventories as the top gap in biodiversity management fig 4.6. Therefore, the implementation of comprehensive and elaborate biodiversity inventory and monitoring programmes is still not adequately addressed since the NBSAP of 1998. These results indicate that biodiversity inventory and monitoring programmes have to be strengthened especially at species and genetic levels.

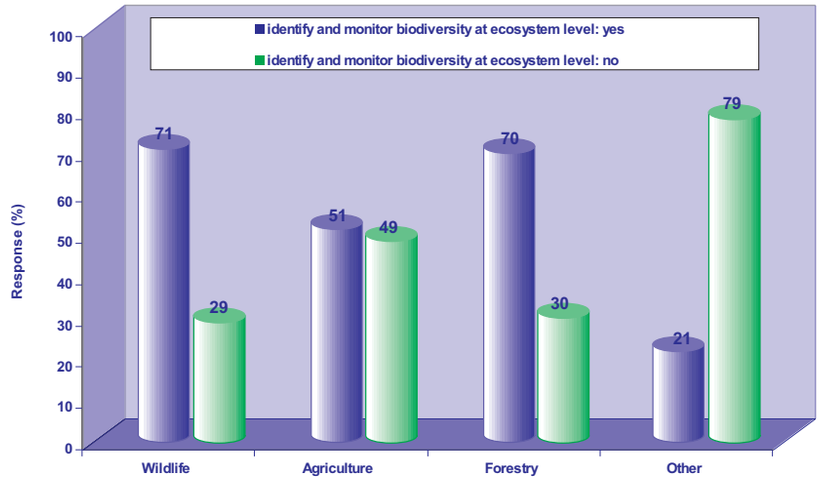

Figure 4.4: The state of inventory and monitoring activities at ecosystem level per biodiversity management sector

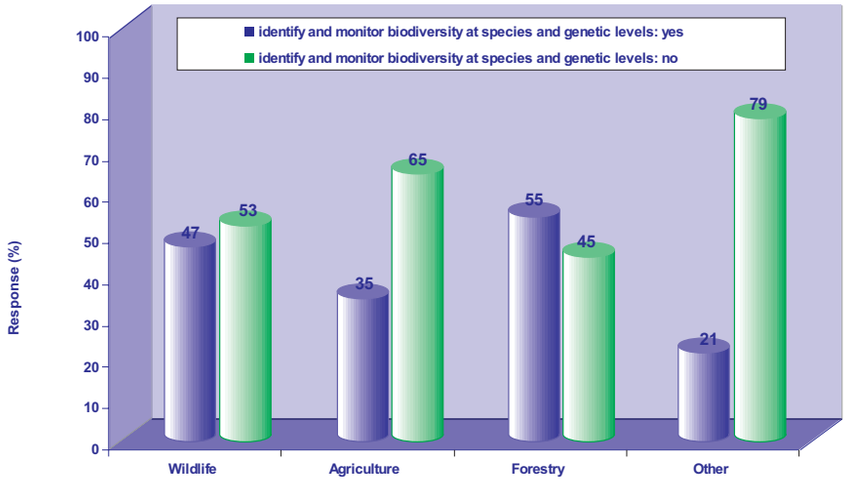

Figure 4.5: The state of inventory and monitoring activities at species and genetic levels per biodiversity management sector

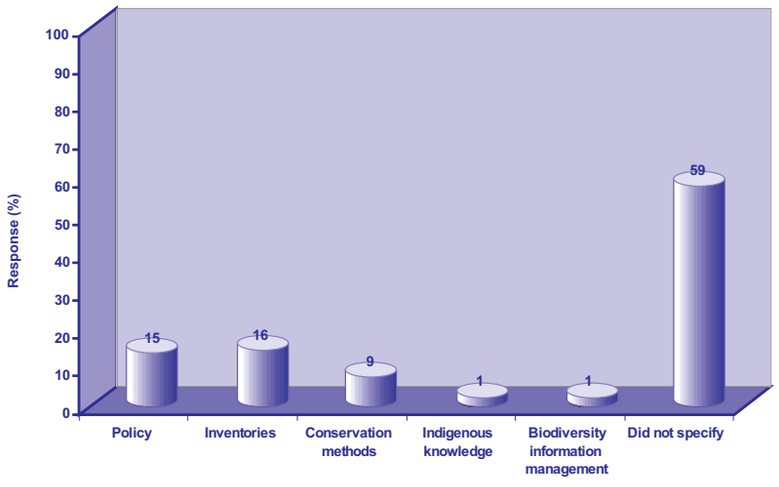

Figure 4.6: Information gaps regarding biodiversity management as identified by the respondents of the questionnaire survey.

The ninth capacity constraint relates to the low levels of biodiversity related research and capacity building (training). Article 12 of the UNCBD stipulates the need for research and training in biodiversity issues. Research and training (extension) are mentioned as a capacity gap in the NBSAP of 1998.The results of this NCSA indicate that only 30 % of the institutions and individuals interviewed confirmed that they are doing biodiversity related research while 70 % do not conduct biodiversity related research. When analyzed by sector, the patterns reveal that the relatively low levels of biodiversity related research recently prevails among all the biodiversity management sectors (fig. 4.7). It is a fact that knowledge about factors effecting biodiversity stems from research and that this information is needed to build capacity to implement the CBD.

Thus, the results indicate that there is a capacity gap in biodiversity research and training. Therefore, it is concluded that biodiversity research and training need to be strengthened.

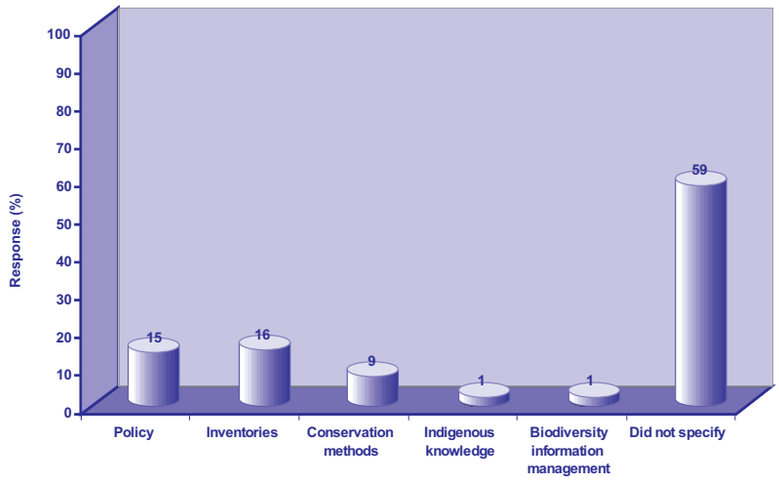

Figure 4.7: The proportions of respondents who are undertaking biodiversity related research and those who are not undertaking biodiversity related research per biodiversity management sector

Research infrastructure such as computers, software, hardware, Internet access and transport are an important component of a vibrant research culture. In this study, we investigated whether access to this research infrastructure is related to the existence of biodiversity related research. The study confirmed that research capacity is a function of these different elements of research infrastructure.

Article 7 of the UNCBD stipulates the need for the maintenance and organization of data, derived from identification and monitoring activities and this is appropriately accomplished through the use of Information and Communication Technologies (ICT) that are centred on computer hardware and software. Thus, the provision and strengthening of appropriate infrastructure to institutions that do biodiversity related research is needed to fill this capacity gap. Figure 4.8 shows the capacity building programmes that are existent in different institutions.

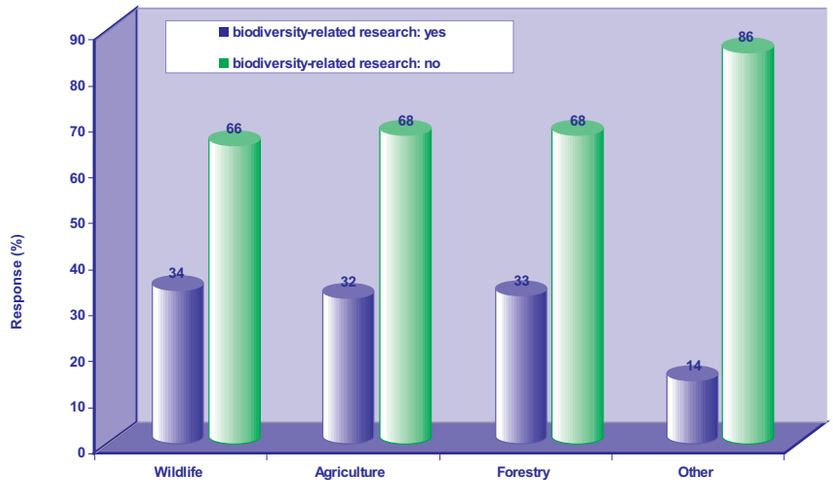

Figure 4.8: Capacity building programmes that is existent in different institutions

Training ranks top among the capacity building programmes, followed by research and extension. The fact that training ranks among the highest in capacity building programmes yet there is a low awareness about the UNCBD means that the existing training is not related to biodiversity issues. Capacity building programmes in information technology, particularly Geographic Information Systems (GIS) and remote sensing (RS) ranked lowest. Many did not specify any capacity building programmes. These findings together with results discussed above confirm that the inadequacy in capacity building programmes as a capacity gap limits the attainment of the requirements of the UNCBD. Therefore, capacity-building programmes related to biodiversity management need to the strengthened.

The tenth capacity constraint relates to limited funding for biodiversity related activities. Findings in the NBSAP indicate a limited financial base and institutional capacity to facilitate the formulation, implementation and monitoring of biodiversity projects at local level as one of the major constraints to the successful management of biodiversity resources in Zimbabwe. This capacity constraint militates against the successful implementation of articles 6 and 20 of the UNCBD. An investigation of the adequacy and source of funding for biodiversity related organizations belonging to three main categories: Government, private and Non-Governmental Organization (NGO). The results indicate(Fig 4.9) that private organizations state have "own funding" , NGOs depend mainly on donor support while government organizations state the government recurrent budget, as well as the Public Service Investment Programmes (PSIP) as their

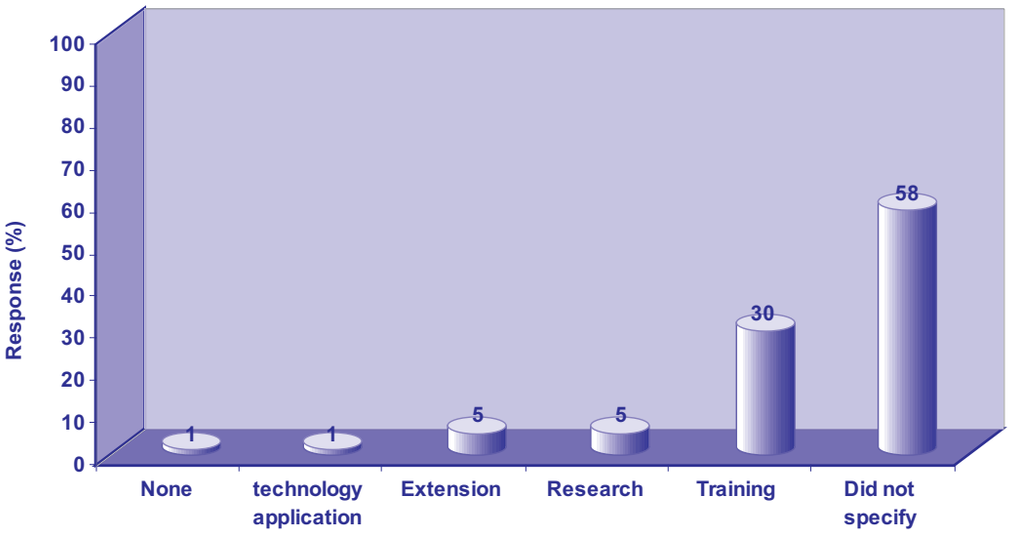

Figure 4.9: The status of funding from own revenue by category; government, private and NGO.

major strength. However, a large proportion of the respondents stated that funding for their biodiversity management activities is a weakness. This finding confirms that there is still a capacity gap in the funding of biodiversity related activities in Zimbabwe.

The eleventh capacity constraint relates to poor staff retention and poor skills related to international cooperation in biodiversity management institutions. One of the emerging national issues that emanate directly from the economic challenges the country is facing is staff retention and international cooperation. The ability to foster international cooperation is one of the key requirements of articles 5 and 15 of the UNCBD and staff retention is a very important component of retaining capacity within institutions. According to the assessment results, less than half of the responding institutions and individuals are not actively involved in fostering international cooperation, i.e., fostering international cooperation and negotiation on biodiversity is low in all sectors. However, a slightly higher proportion was noted in the wildlife sector, indicating the long experience in international cooperation of this sector. For example, the wildlife sector is part CITES conferences. This indicates a capacity gap, which militates against Zimbabwe's ability to meet the requirements of the UNCBD. The UNCBD is an international convention where the capacity to foster international cooperation at institutional and individual levels is critical. Taking part in negotiation and cooperation entrenches ownership and commitment and therefore builds capacity.

The economic challenges Zimbabwe is facing make staff retention a major issue if Zimbabwe has to adequately meet its obligations under the provisions of the UNCBD. In this regard, we investigated the level of satisfaction with staff retention across the private, governmental and NGO categories. The assessment showed that the ability to retain staff is mainly regarded as a weakness in government organizations while it is regarded as a relative strength in the NGOs and private organizations that are involved in the management of biodiversity. The results also showed that staff retention is directly related to incentives and motivation given. Therefore staff retention is a capacity gap among the institutions and that in order to retain staff, the incentives and motivation have to be improved especially in government.

Summary

Table 4.2 summarizes the capacity development needs under UNCBD

Table 4.2 Summary priority capacity development needs under UNCBD

Level	Capacity need
Systemic	▪ Facilitate adequate representation and expand the mandate of the National Biodiversity Forum (NBF) as an instrument to fulfill the requirements of the UNCBD. ▪ Strengthen institutional coordination and negotiation skills and expertise for the implementation of the UNCBD requirements. ▪ Institute a representative conservation framework for the implementation of the UNCBD requirements. ▪ Strengthen enforcement of environmental legislation related to biodiversity management. ▪ Develop legislation that gives guidance on conditions that should be attached to international collaborative arrangements with regards to access to genetic resources and biotechnology. ▪ Develop capacity to raise financial resources for the purpose of fulfilling the key requirements of the UNCBD.
Institutional	▪ Strengthen information dissemination about the biodiversity conservation ▪ Develop biodiversity inventory and monitoring programmes. ▪ Strengthen biodiversity related research and capacity building. ▪ Raise funding for biodiversity related activities. ▪ Strengthen staff retention programmes in biodiversity management institutions
Individual	▪ Training in skills related to international cooperation and negotiation ▪ Training in biodiversity inventory and monitoring. ▪ Training in ICT particularly GIS and RS skills for inventory and monitoring of biodiversity

United Nations Convention to Combat Desertification (UNCCD)

Stakeholders for the UNCCD

The stock take exercise determined that stakeholders for the UNCCD include government, local authorities, NGOs, farmer organizations, academic institutions and the private sector. It is evident from the assessment that the UNCCD mandate is very broad with almost all institutions reporting being involved in some aspect of the convention. In consideration of priority issues of the UNCCD, the following categorization of institutions as per specific article of the convention applies in Zimbabwe.

Table 4.3 Categorization of Stakeholders In relation to Key Priority Areas of the UNCCD

UNCCD Article	Institution performing related functions
Promotion of alternative livelihoods and improvement of national economic environment with a view to strengthening programs aimed at the eradication of poverty and at ensuring food security	NGOs and Farmer Organization, Research and Development Organizations, Local Authorities, Department of Social Welfare, Ministry of Gender and Employment Creation.
Demographic dynamics	Central Statistical Office. Ministry of Health and Child Welfare, Civil Defence, Ministry of Labor Public Service and Social Welfare, Population Services international
Sustainable management of natural resources	AREX, DNR, FC Intermediate Technology Development Group, Africa Plus 2000 Network
Sustainable agricultural practices	Farmer Organizations/Associations
Development and efficient use of various energy sources	Department of Energy, SIRDC NGOs such as ZERO, Africa 2000 Plus Network, SIRDC
Institutional and legal frameworks	Government Ministries and Local Authorities
Strengthening of capabilities for assessment and systematic observation including hydrological and meteorological services	Department of Meteorological Services. Scientific Research Organizations and Academic Institutions such as the UZ Geography dept
Capacity building education and public awareness	Ministry of Information and Publicity, NGOs and government extension departments

Institutional and individual level capacity constraints

The first capacity constraint relates to poor allocation of responsibilities related with the UNCCD. The assessment focused on the functionality and viability of organizations, their skills and expertise base and the existence of management systems that create enabling environment for the implementation of the convention. Figure 4.10 gives a summary of the finding with respect to awareness of the convention, existence of clear organizational structures and allocation of responsibilities for the implementation of the convention. Despite the high levels of awareness on the UNCCD and the clearly defined structure to implement the convention, fewer organizations reported having responsibilities clearly allocated (figure 4.11). This may reflect either a shortage of staff that results in one officer having to undertake several duties or the failure by management to assign clear roles and responsibilities. Thus, there is a need to develop incentives that are geared towards staff retention

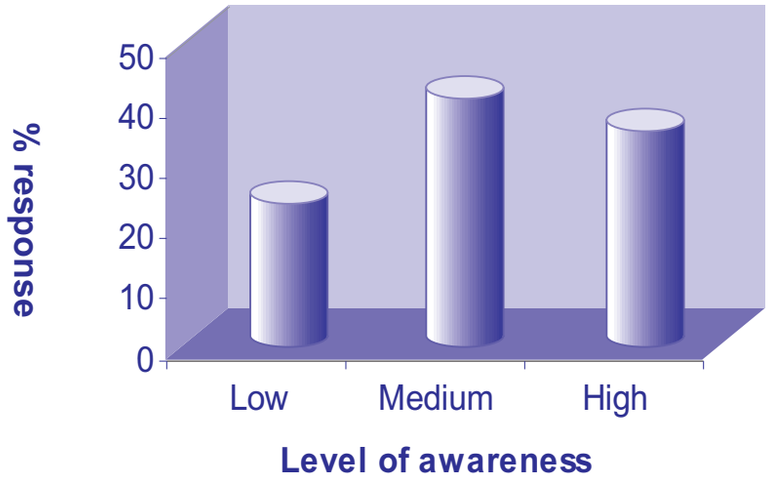

Figure 4.10 Level of Awareness on the UNCCD.

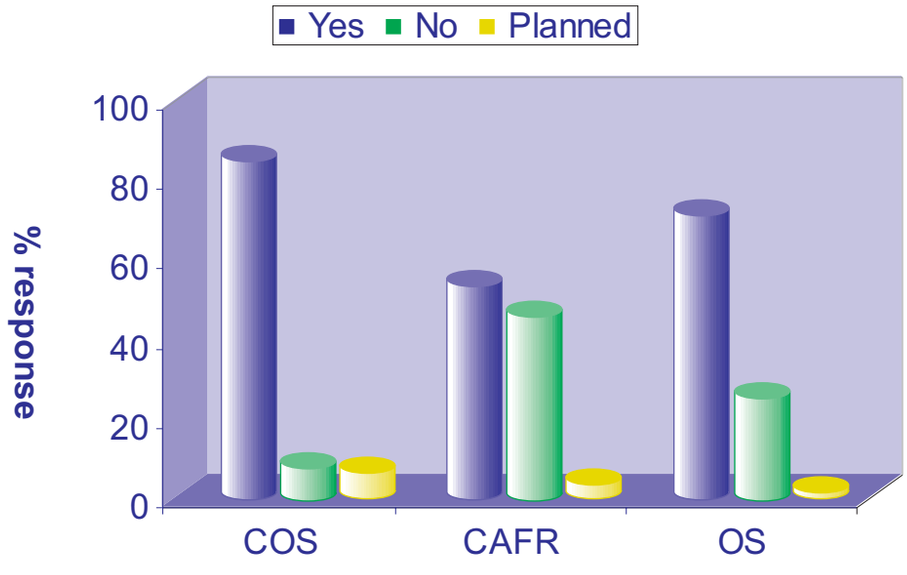

Figure 4.11 Extent to which Organizations have Clear Organizational Structure (COS), Clearly Assigned Functions and Responsibilities (CAFR) and adequate Office Space(OS)

The second capacity constraint relates to inadequate ICT equipment for inventory and monitoring on land degradation. The UNCCD places emphasis on the need for information management systems to collect, analyze, document and disseminate information on the scientific aspects relating to the management of drought and land degradation including the need for early warning, vulnerability assessments, inventory and mapping of natural resource trends. All these activities depend on updated information communication technology. More than 60% of organizations reported having inadequate supply of information equipment in the form of computers, and peripherals, software packages and internet connectivity. The inadequate supply of computers and software also has impact on the ability of organizations to access Internet. Despite majority of organizations having telephone connectivity, they do not have access to the Internet. Thus, there is need to increase computer infrastructure and Internet connectivity to enhance capacity to implement the requirements of the UNCCD

The third capacity constraint relates to low levels of human capacity in organizations. Human capacity including attitude and commitment, expertise, knowledge and skills are important factors for the successful implementation of the UNCCD. Whilst individuals are recruited basing on their possession of these desirable attributes, organization may increase these capacities through incentives, training and motivation. The results of the NSCA show in inadequate levels in expertise, skilled staff, incentives and motivation and training opportunities. These results are consistent with observations made by the taskforce members and other stakeholders at the national workshop. It is apparent that Zimbabwe has suffered a brain drain that has seen those with technical qualifications leaving for greener pastures overseas. Direct observations and review of reports from organizations reveal a decline in productivity of staff.

The low productivity in organizations may be a result of low staff moral due to the absence of incentives and limited training opportunities. It is important to point out that DNR is functioning without a full complement of staff particularly within the provinces and districts. The situation affects other departments who once they lose staff, they are not able to rehire due to the need to optimize the use of the limited operational funding. Majority of organizations indicated a lack of incentives and motivation for staff hence pre-disposing them to losing skilled staff. Despite the harsh economic climate, Zimbabwe still offers training opportunities for personnel in government ministries and departments

The fourth capacity constraint relates to poor skills related to forging partnerships and undertaking, participatory planning, strategic planning and research and development in land degradation related issues. The limited strengths in communication and team building are a capacity constraint in terms of forging partnerships and participatory planning. The assessment on the ability of organizations regarding their strengths to forge partnerships, undertake strategic planning and participatory planning revealed a need for capacity building. Forging partnerships at vertical and horizontal levels is critical for the effective implementation of the convention. Majority of organizations also reported having limited capacity to motivate staff hence affecting aforementioned aspects

The fifth capacity constraint relates to inventory and monitoring, use of Indigenous Knowledge systems (IKS) development of appropriate technology, alternative energy sources, alternative livelihoods and research. The NCSA results show that many organizations have limited strengths in project managements and monitoring and evaluation. When organizations where requested to rate their strengths in capacity for undertaking research and development participatory planning , strategic planning and forging partnerships, more less than 50% reported that they had major strengths in these areas.

The results are a cause for concern since successful implementation of the UNCCD depend on the availability of data indicating trends in ecosystems integrity and the status of natural resources as well as the extend of land degradation and frequency

and intensity of drought. This is only possible through systematic monitoring and evaluation of the impact of management strategies as well the use of indicators to assess the trends in natural resource depletion.

Even at organizational level monitoring and evaluation is an important tool to guide implementation of projects and keep them on track regarding the intended objectives and outputs. In Zimbabwe, monitoring and evaluation is not yet considered as an integral part of project management but rather an add-on that is done post project. There is need to strengthen the capacity of organizations to design indicators and performance monitoring systems that yield data and information that is useful for decision makers to design programs and strategies that effectively reduce land degradation and drought.

Scientific knowledge on desertification and land degradation is generated through research and development. Most organizations in Zimbabwe are weak in this area hence there is for new scientific knowledge that has been generated through research. A few scientific organizations are involved in research for example the Scientific Industrial Development Centre (SIRDC) is involved in design of new technologies in the field of energy and construction. A few Universities have department undertaking applies research in drought resistant crop varieties, fodder and pasture varieties suitable for the semi arid regions and water conservation techniques. Some NGOs such as Intermediate Technology Development Group have also carried out research on suitable sustainable agricultural practices. However there is no systematic approach to research.

One glaring gap revealed by the questionnaire survey is the research on vulnerability to drought, natural disasters and climate variability as evidenced by the results that showed less than 50 % of organization undertaking research. Scientific organizations reported being faced with constraints such as obsolete equipment, lack of vehicles and the high fuel costs to undertake field research. In some instances there is lack of expertise in scientific analysis of raw data generated at field level. There is therefore a need to strengthen existing scientific institutions as well as facilitating the establishment of viable partnerships with regional scientific bodies through regional collaborative research.

The sixth capacity constraint relates to low levels of expertise in fields necessary to advance scientific knowledge of on the UNCCD. Organizations were requested through the questionnaire-based interview to indicate the level of expertise in remote sensing, GIS, EIA, cartography, mapping and land degradation monitoring. The majority of respondents failed to specify what capacities they had implying that they felt it was not necessary to possess such expertise. There are a very limited number of organizations that have expertise in remote sensing, GIS, EIA application, mapping and cartography. Direct observation shows the Forestry Commission, AREX, University of Zimbabwe, SIRDC and the Department of Natural Resources as having the hardware for GIS and RS. However some of these organizations no longer have functional GIS and RS due to outdated software and the loss of skilled personnel. Zimbabwe does not have an updated Geographic Positioning system. The few that still have functional systems are overwhelmed by the demand. The department of the surveyor general has not updated the 1:5000 Maps on soils, vegetation, geology and climate for the past five years.

The seventh capacity constraint relates to information management. The assessment showed a gap between the expected information and what is supplied to users of information. Whilst departments such as AREX, Forestry Commission, DNR and the Universities publish data and reports, the content is not user friendly and does not add value to decision making. Generally there is limited dissemination of information. In addition organisation found it difficult to specify their information needs. Clearly there is a capacity constraint in information collection and packaging.

The eighth capacity constraint relates to resource mobilization. Funding emerged as a major constraint

that affected ability of organizations and individuals to effectively deliver on their mandates. It was cited as the reason for the shortage of equipment, the limited extension service delivery, the brain drain, and failure to service and replace obsolete equipment. There has been a major decline in donor support to both government and NGOs and this has affected the delivery of projects. Faced with the harsh economic environment, the government has reduced budget allocations to all ministries and departments. Despite the limited resources at government's disposal, it emerged that it is still is the major source of revenue especially for the Public Sector Investment Program (PSIP). Organizations also appear weak in generating own revenue. Resource mobilization therefore represents a capacity gap for most organizations.

Basing on the recommendations made at the national stakeholder meeting and taking into account the above constraints, a summary of capacity building needs that apply to Zimbabwe at the three levels is indicated in Table 4.4.

Table 4.4: Summary of Capacity Needs at the three levels

Systemic	▪ Enhance data collection, management and information dissemination (particularly of best practice) capacity ▪ Strengthen skills for policy analysis and development including international negotiation skills ▪ Strengthen coordination mechanism across the three conventions in government, civil society and private sector ▪ Develop a framework for systematic research ▪ Facilitate the acquisition/development and adaptation of technology ▪ Develop collaborative partnerships amongst government institutions ▪ Strengthen the focal point by recruiting a full time coordinator for the UNCCD
Organizational	▪ Develop and implement focused programs on environmental research ▪ Strengthen training programs in inventory and monitoring, mapping and database development including secondments to centres of excellence ▪ Strengthen the development, acquisition and transfer of appropriate technology mechanisms ▪ Build Scientific Knowledge on the UNCCD including use of ICT ▪ Strengthen Strategic Planning and Integrated Approach to project delivery ▪ Build capacity for resource inventory, hydrological research, participatory research, land management and land use planning
Individual	▪ Enhance skills in ICT ▪ Enhance skills in project management ▪ Build expertise in GIS and RS ▪ Enhance skills in participatory planning and ecosystem approach to land management

Chapter 5: National capacity development strategy to address the priority environmental issues in Zimbabwe across the three conventions

National stakeholders' workshops were conducted: first to prioritize the key environmental issues and second to determine capacity development needs to address them. The priority environmental issues relevant to Zimbabwe and were identified during the workshops were:

- Increasing levels of all forms land degradation (mainly, deforestation, soil erosion, gully formation, siltation) in communal and resettlement areas
- Increasing frequency and severity of droughts and floods
- Increasing atmospheric pollution particularly in urban centres.
- Biodiversity loss outside protected areas (communal lands and resettled areas)

Next, the workshops identified key capacity constraints common to the three conventions, as well as to formulate strategies that address the priority environmental issues facing Zimbabwe. Using mind-mapping cards key capacity constraints were identified (fig. 5.1).

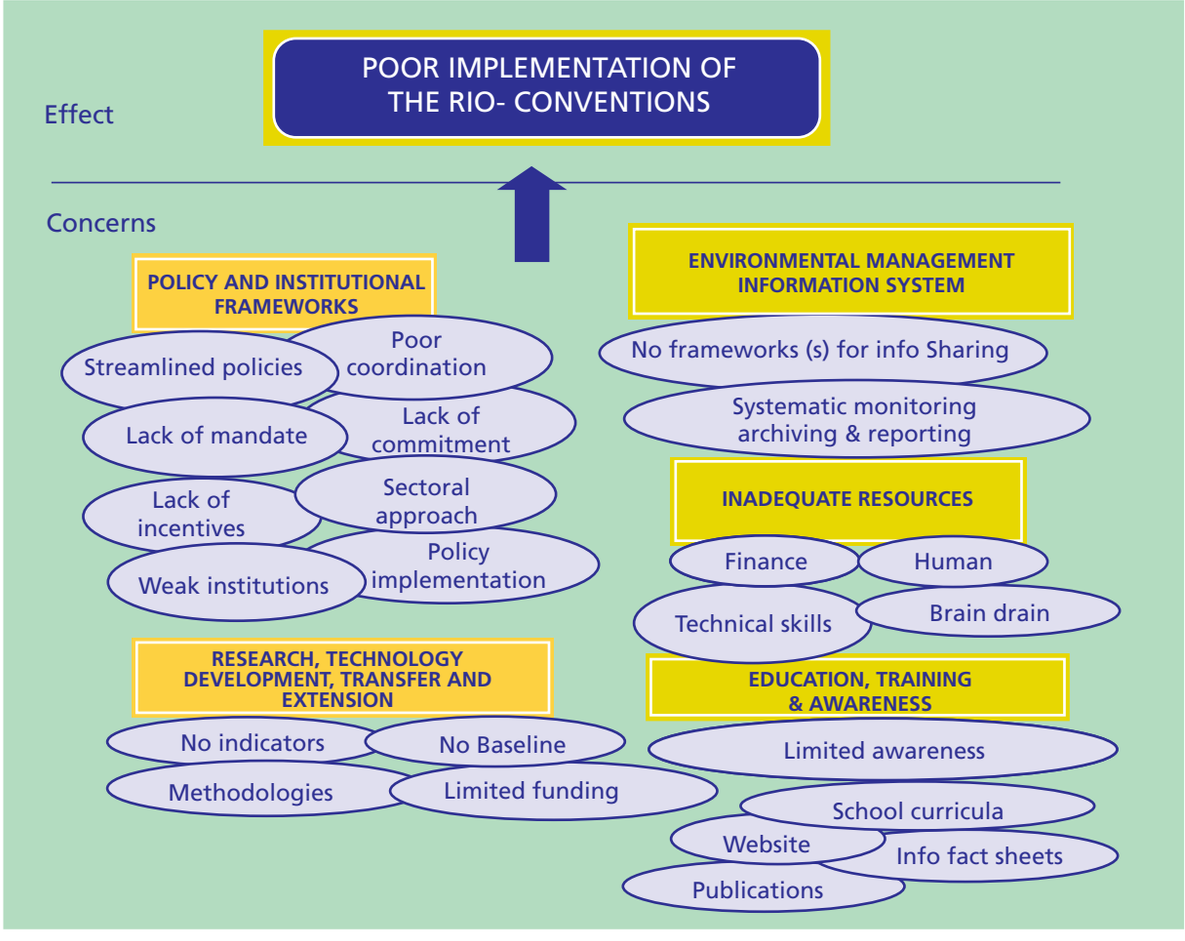

Figure 5.1: The prioritization at a stakeholder's workshop based on the key capacity needs across the three conventions.

From the problem analysis, the five key strategic areas of capacity need across the three conventions were identified as: (1) lack of a coordinated policy and institutional framework, (2) Inadequate information leading to low levels of awareness, (3) Inadequate research, technology development and transfer, (4) lack of an information management system for inventory and monitoring implementation of the conventions, and Inadequate resources/funding (fig. 5.1). From these strategic areas of capacity need, five strategic objectives were formulated and these were as follows:

- To strengthen the policy, legal and institutional frameworks to address priority environmental issues as required by the three Environmental Conventions.
- To raise levels of awareness on environmental issues in the context of the three Conventions and enhance skills for effective implementation.
- To strengthen scientific and technical capacity (research, technology development and transfer) to address thematic and crosscutting environmental issues.
- To develop an integrated environmental information management system that addresses key thematic and crosscutting environmental issues.
- To develop capacity to mobilize resources from government, private sector, civil society and donor organizations at national, regional and international levels for effective environmental management.

Finally, capacity development actions and strategies were formulated based on the key environmental issues and strategic capacity development objectives. Table 5.1 summarizes the capacity development strategy that was adopted to address the key environmental issues as identified in the national workshops.

Chart 1 Problem tree. Impact of Environmental Degradation on society

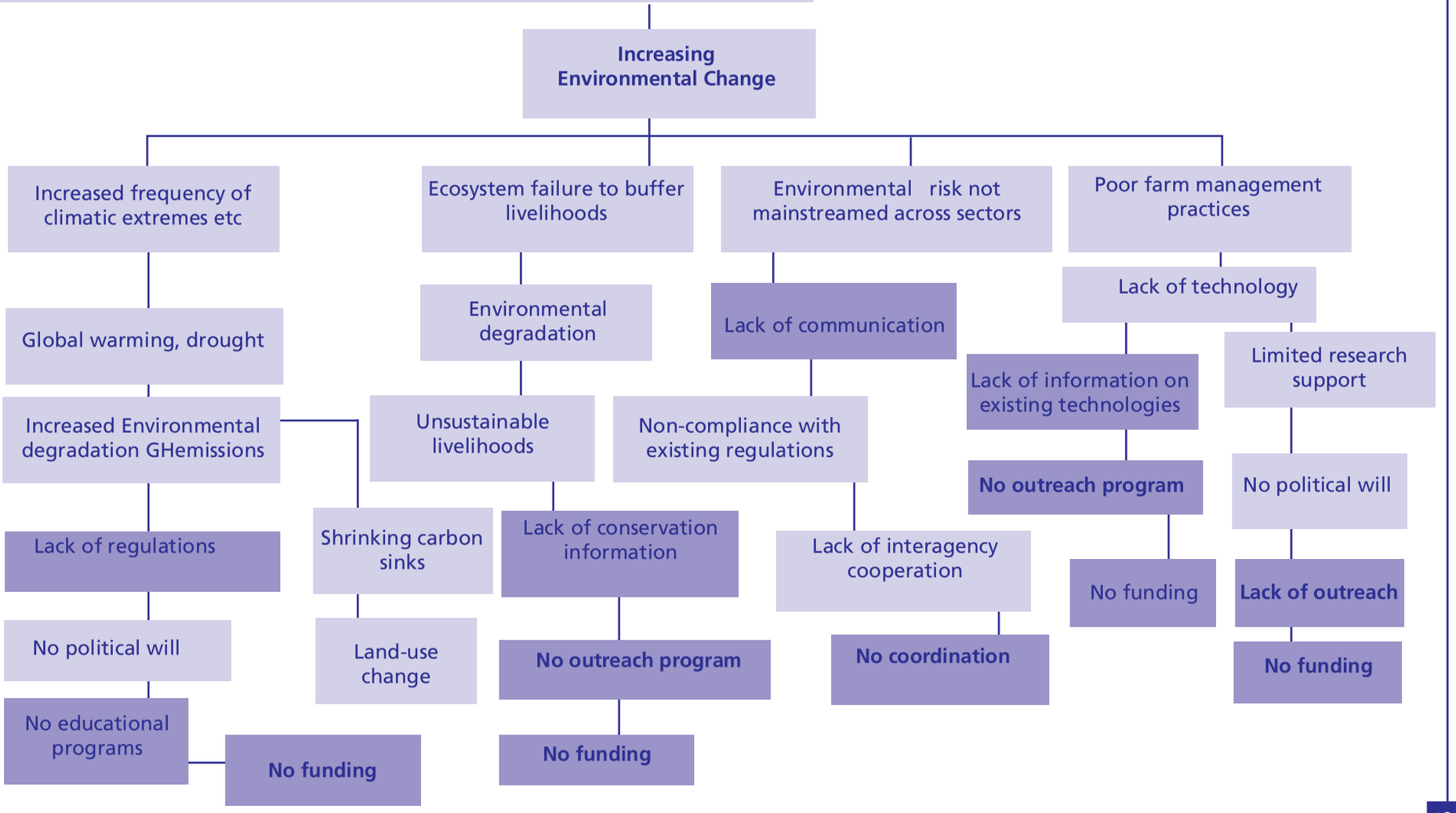

TABLE 5.1: PRIORITY ENVIRONMENTAL ISSUES ACROSS THE THREE CONVENTIONS FOR ZIMBABWE, AS WELL AS THE STRATEGIC OBJECTIVES AND CAPACITY DEVELOPMENT ACTIONS AND STRATEGIES

Strategic Objective 1: To Strengthen the policy, legal and institutional frameworks to address priority environmental issues in the context of the three conventions.					
Capacity constraints	**Proposed priority capacity development action**				
	Issue 1. Land degradation	**Issue 2 Drought & flood**	**Isseu3 Biodiversity loss**	**Issue 4 Atmospheric Pollution**	**Synergetic Capacity Needs**
1. Poor inter-and intra sectoral coordination	- Establish coordinating office in EMA - Acquire and implement ICT infrastructure - Train critical staff in use of ICT for coordination. - Strengthen networking of key players through ICT - Compile a coordination manual. - Conduct training in coordination skills for key staff	- Acquire and implement ICT infrastructure - Train critical staff in use of ICT for coordination - Conduct training in coordination skills for key staff	- Acquire and implement ICT infrastructure - Train critical staff in use of ICT for coordination - Conduct training in coordination skills for key staff	- Acquire and implement ICT infrastructure - Train critical staff in use of ICT for coordination - Conduct training in coordination skills for key staff	- ICT infrastructure - Coordination skills

2. Limited capacity for policy analysis	- Train more environmental policy analysts. - Develop an integrated environmental information system - Strengthen the environmental policy component of existing curricula.	- Develop and implement an integrated environmental information system - Strengthen the environmental policy component in existing curricula.	- Develop and integrated an integrated environmental information system - Strengthen the environmental policy component in existing curricula.	- Develop and integrate an integrated environmental information system - Strengthen atmospheric pollution policy analysis in existing curricula.	- Environmental information system - Policy analysis skills
3. Weak capacity for policy	- Acquire environmental monitoring equipment. - Develop operational guidelines for mainstreaming environmental issues. - Develop and implement an integrated education, awareness and advocacy programs. - Train community level practitioners in local level policy implementation. - Develop models for updating incentives and penalties.	- Strengthen hydro-meteorological observation networks. - Develop and implement an integrated education, awareness and advocacy programs.	- Develop a comprehensive biodiversity conservation legal framework. - Develop and implement an integrated education, awareness and advocacy programs.	- Acquire equipment for pollution monitoring. - Develop and implement integrated education, awareness and advocacy programs.	- Environmental Monitoring equipment - Integrated communication, education and publication awareness materials.

Strategic Objective 2:To raise levels of awareness on environmental issues in the context of the three Conventions					
Capacity constraints	**Proposed priority capacity development action**				
	Issue 1. Land degradation	**Issue 2 Drought & flood**	**Isseu3 Biodiversity loss**	**Issue 4 Atmospheric Pollution**	**Synergetic Capacity Needs**
1. Limited financial resources	- Develop skills for lobbying and negotiation - Develop skills in environmental entrepreneurship	- Develop skills for lobbying and negotiation - Develop skills in environmental entrepreneurship	- Develop skills for lobbying and negotiation. - Develop skills in environmental	- Develop skills for lobbying and negotiation. - Develop skills in environmental entrepreneurship	Lobbying and negotiation skills. Resource mobilization skills Entrepreneurship skills
2. Limited technical expertise in	- Train key staff in environmental information packaging	- Train key staff in environmental information packaging	- Train key staff in environmental information packaging and advocacy	- Train key staff in environmental information packaging and advocacy	Information packaging skills
3. Limited national	- Develop lobbying skills for infrastructure expansion	- Develop lobbying skills for infrastructure expansion	- Develop lobbying skills for infrastructure expansion	- Develop lobbying skills for infrastructure expansion	- Develop lobbying skills for infrastructure expansion

Strategic Objective 3: To strengthen scientific and technical capacity (research, technology development and transfer) to address thematic and cross-cutting environmental issues					
Capacity constraints	**Proposed priority capacity development action**				
	Issue 1. Land degradation	**Issue 2 Drought & flood**	**Isseu3 Biodiversity loss**	**Issue 4 Atmospheric Pollution**	**Synergetic Capacity Needs**
1. Inadequate systematically collected data	- Train staff and communities in systematic data collection and archiving. - Acquire appropriate tools and infrastructure for data collection and archiving.	- Acquire appropriate tools and infrastructure for data collection and archiving	- Train staff and communities in systematic data collection and archiving. - Acquire appropriate tools and infrastructure for data collection and archiving.	- Train staff and communities in systematic data collection and archiving. - Acquire appropriate tools and infrastructure for data collection and archiving.	Data collection and database development and management skills Data collection, transmission and archiving Infrastructure
2. Brain drain	Develop management skills in institutions through workshops	Develop management skills in institutions through workshops	Develop management skills in institutions through workshops	Develop management skills in institutions through workshops	Management skills
3. Inadequate local specialized training facilities and programs	- Develop lobbying skills to influence tertiary institutions - Train specialist trainers in land management	- Develop lobbying skills to influence tertiary institutions - Train specialist trainers in drought and flood risk management	- Develop lobbying skills to influence tertiary institutions - Train specialist trainers in conservation and management	- Develop lobbying skills to influence tertiary institutions - Train specialist trainers in pollution management	Lobbying skills Specialist skills

4. Inadequate research and development facilities	- Acquire equipment for land related research and information management. - Develop networking skills through workshops	- Acquire equipment for drought and water related research and information management. - Develop networking skills through workshops	- Acquire equipment for biodiversity related research and information management. - Develop networking skills through workshops	- Acquire equipment for atmospheric pollution related research and information management. - Develop networking skills through workshops	Networking skills

Strategic Objective 4: To develop an integrated environmental information management system that addresses key thematic and crosscutting environmental issues.					
Capacity constraints	**Proposed priority capacity development action**				
	Issue 1. Land degradation	**Issue 2 Drought & flood**	**Isseu3 Biodiversity loss**	**Issue 4 Atmospheric Pollution**	**Synergetic Capacity Needs**
1. Inadequate expertise in Evironmental Information Management Systems	- Train staff in GIS, Remote Sensing and Database Management	- Train staff in GIS, Remote Sensing and Database Management	- Train staff in GIS, Remote Sensing and Database Management	- Train staff in GIS, Remote Sensing and Database Management	GIS, Remote Sensing and DBM skills
2. Inadequate information and	- Acquire ICT for GIS, Remote Sensing and Database Management	- Acquire ICT for GIS, Remote Sensing and Database Management	- Acquire ICT for GIS, Remote Sensing and Database Management	- Acquire ICT for GIS, Remote Sensing and Database Management	Environmental Information System

References

Ministry of Mines, Environment and Tourism, Climate Change Office, 1998. Zimbabwe's Initial National Communication on Climate Change,. Unpublished Report prepared for the UNFCCC. Harare, Zimbabwe.

Ministry of Environment and Tourism, Climate Change Office, 1996. First National Workshop on Climate Change, Unpublished Report of the Zimbabwe Climate Change Capacity Building Project, RAF/93/G31. Harare, Zimbabwe.

Chenje, M., L. Sola, and D. Paleczny. 1998. The state of Zimbabwe's Environment. Ministry of Mines Environment and Tourism, Government of Zimbabwe, Harare.

Ministry of Environment and Tourism. 1998. Zimbabwe Biodiversity Strategy and Action Plan: Status of Biodiversity, unmet needs, strategies and actions. Government of the Republic of Zimbabwe, Harare.

Ministry of Mines Environment and Tourism. 1997. Environmental Impact Assessment Policy. Government of Zimbabwe, Harare.

Ministry of Natural Resources and Tourism. 1987. The National Conservation Strategy: Zimbabwe's Road to Survival. Ministry of Information Post and Telecommunications, Government of Zimbabwe, Harare.

Appendix 1: Capacity self-assessment questionnaire

PART A: About the Respondent

Name			Mr/Mrs/Miss/Dr/Prof
My position	Junior Mgt	Middle Mgt	Senior Management
Sex (M / F)	Period of Service	<5 years	>5 years
Sector of Activity	Government	Private	NGO
Name of Institution			
Official Responsibility			

1. Rank level of awareness of the three Conventions within the Institution? 1=low, 2=Medium 3-high		
CDB – 1, 2, 3	UNCCD – 1, 2, 3	UNFCCC – 1, 2, 3
2. Constraints to awareness (1=lack of information, 2=lack interest, 3=non-core 4=other (Sepcify)		
CBD 1, 2, 3, 4	UNCCD 1, 2, 3, 4	UNFCCC 1, 2, 3, 4

3. Ongoing and/or planned projects/programs addressing: (Use separate sheet if necessary)	
Biodiversity	
Desertification	

PART B: INSTITUTIONAL CAPACITY

Please Insert 1=Yes, 2=No , 3 = Planned			
4. Is there a clear organizational structure for this institution to carry out its mandate?	1	2	3
5. If not, what are the constraints?:			

6. Are functions and responsibilities clearly allocated according to this structure for:								
Biodiversity			Desertification			Climate Change		
1	2	3	1	2	3	1	2	3

7. Do you have sufficient infrastructure such as below to carry out your mandate:			
Office Space	1	2	3
Computers and peripherals			
Software packages			
Vehicles			
Fixed line telephone			
Internet Access			

8. Of the following, which activities are you implementing (Please tick)		
Biodiversity	Desertification	Climate Change
1. Facilitating stakeholder access to genetic resources	1. Establishing legal frameworks	1. GHGe monitoring
2. Identification and monitoring of genetic resources at ecosystem level	2. Management of natural resources	2. Adaptation to climate change
3. Identification and monitoring of biodiversity at species and genetic level	3. Promoting Sustainable agricultural practices	3. Protection of forests
4. Incorporating indigenous knowledge systems (IKS)	4. Development of alternative energy sources	4. Mitigating GHG emissions
5. In-situ conservation of biodiversity	5. Promoting alternative livelihoods	5. Climate change related research
6. Ex-situ conservation of biodiversity	6. Adaptation and development of technology	6. Meteorological observations
7. Biodiversity related research	7. Land degradation & desertification related research	7. Hydrological observations
8. Public capacity building and awareness	8. Public capacity building and awareness	8. Public capacity building and awareness
9. Impact Assessment of projects on biodiversity	9. Inventory and monitoring of natural resources trends	
10. Fostering International cooperation & negotiations on biodiversity	10. Fostering International cooperation and negotiations on land degradation & desertification	10. Fostering International cooperation and negotiations on climate change
	11. Promoting & incorporating IKS	

INTERNAL CAPACITY FACTOR ANALYSIS FOR THE RGANIZATION

Please insert: 1=major strength, 2= moderate strength, 3=moderate weakness, 4=severe weakness

KEY AREAS	Biodiversity	Land degradation and desertification	Climate Change
Organisation Structure Team building Communication			
Finance Own revenue Donor support Gvt support-recurrent Gvt support-capital/PSIP			
Processes Participatory Planning Strategic Planning Negotiation Project Management Monitoring and evaluation			
Marketing Product Quality Market Share Promotion Distribution			
Human Resources Productivity Communication Skilled Staff Conditions of Service Training opportunities Staff Turnover			
Innovation R&D IT/ICT			

8. List any relevant capacity development programs in your institution relevant to:

Biodiversity	
Desertification	
Climate Change	

What are your information needs to effectively implement your activities on:

Biodiversity	
Desertification	
Climate Change	

9. What information are you currently getting and from whom?

	Information received	Source
Biodiversity		
Desertification		
Climate Change		

10. What relevant technical capacity exists in your institution to implement activities on:

	Available Expertise (Eg. Remote Sensing & GIS)	**Level of training** (Technical, University, etc)
Biodiversity		
Desertification		
Climate Change		

11. What capacity development aspect do you feel very strongly about for:

Biodiversity	Desertification	Climate Change

Appendix 2: UNFCCC related projects implemented in Zimbabwe

- *Research*

ODA, DANIDA and IDRC supported studiesZimbabwe's first climate change studies were in 1991, supported by ODA, DANIDA and IDRC.

US Country studies

In 1995/96 the US Country Studies Programme was implemented in Zimbabwe under the auspices of the then Ministry of Mines, Environment and Tourism. These studies contributed towards capacity building associated with preparation of GHG inventories, climate change scenarios, and vulnerability and adaptation assessments. A number of peer reviewed research articles were published from this work. However, these studies need regular updating since the sources for greenhouse gases are dynamic.

Climate change in Southern Africa (Climate Research Unit, United Kingdom)

In 1996 the WWF International Commissioned a regional study on climate change impacts in the SADC region. The report covered the regional impact of climate change by the year 2050 to include: changes in natural vegetation, surface water availability, agriculture, and vector borne diseases, biological diversity and adaptation strategies and policies.

United Nations Institute for Training and Research (UNITAR) Project

In 1992 and 1993 UNEP, through its RISO Centre and in collaboration with a local NGO, the Southern Centre for Energy and Development implemented studies on mitigation options. Mitigation options in and agriculture were identified.

UNEP Greenhouse Gas Abatement Costing Studies

Zimbabwe participated in the UNEP Greenhouse Gas Abatement Costing Studies carried out in 1993. The analysis was based on the base year of 1990, but the funding for the project was inadequate to allow for any update of the results. This project assessed inventories, options and cost of reducing greenhouse gases. The project was in three phases, which cover GHG inventories and mitigation implementation of options.

Netherlands Supported Climate Change Strategy Studies

This study investigated climate change impact on maize production in Zimbabwe and barriers against adoption of energy efficient technologies in Industry.

- Education, training and public awareness

CC: Train (UNITAR)

Zimbabwe was one of the three countries together with Vietnam and Lithuania that took part in the pilot

phase of the CC: TRAIN Project under the sponsorship of the UNFCCC Secretariat in Geneva. The objectives of the project were essentially awareness raising and training in climate change issues.

In 1993 and 1994, CC: Train (UNITAR) sponsored the following activities in Zimbabwe:

- Workshop on preparing a national GHG inventory.
- Workshops on identifying and analyzing mitigation options.
- Workshops on assessing vulnerability to climate change impacts and adaptation options.

UNDP capacity building project

In 1996 Zimbabwe participated in a two year regional four country (Kenya, Ghana, Mali and Zimbabwe) Capacity Building Pilot Project with the assistance of UNDP (GEF). The main objective of the project was assisting the four countries to meet their obligations under the UNFCCC. The method of project implementation was through national and provincial workshops throughout the country. The first National Workshop on Climate Change was held in October 1996. Capacity development achieved through this project helped the country in the preparation of the Initial National Communication under the UNFCCC in 1998.

Public awareness

A high frequency of occurrence of climatic extremes such as floods and droughts coupled with stakeholder workshops conducted throughout the country has resulted in a fairly high level of climate change awareness in Zimbabwe.

- The first national Workshop on Climate Change was held in Harare on 14-15 October 1996.
- The First Provincial Workshop on Climate Change was held in Chinhoyi on 25th November 1996.

The findings from the US country studies were published and widely disseminated thereby raising awareness on Zimbabwe's climate change challenges. Despite these awareness-raising activities, a survey of 115 institutions during this study revealed limited awareness of the UNFCCC in the country.

Capacity development Initiatives

- Assessment of Greenhouse gas emissions from the SADC power sector (supported by GTZ)

  This project examined the practical, political, technological and cost aspects of using regional energy sector groupings such as SADC's Southern African Power Pool as a vehicle to carry out GHG emission mitigation.

Appendix 3: Stakeholders in involved in Prioritization of Issues

NAME	INSTITUTION	CONTACT No./E-mail
1. Mrs. Sangarwe	MET	701681/3 701691/2
2. Mr. Zhakata W	Climate Change Office (MET)	702758 701681/3 climate@ecoweb.co.zw
3. Mr. H. Chikoore	Dept. of Meteorology	778204-6/ Fax 778161/778172 hchikoore@weather.utande.co.zw
4. Changara C	Institute of Management	011 802 118
5. Mr. Merka J	DNR/Habitat Programme	705661/71/091354362 josephmerka@hotmail.com
6. Mr. Mvududu E	REA (Rural Electrification)	020-66292 011 613561 mvududu@mutare.zesa.co.zw reamutare@africaonline.co.zw
7. Dr. Unganai L	Dept. of Meteorology	778204-6 lunganai@weather.utande.co.zw
8. Mr Nziramasanga N	Southern Centre	795242/3 091 422 668 npnscee@hotmail.com npnzira@comone.co.zw scentr@ecoweb.co.zw
9. Eng. Kaseke E	Dept. of Civil Eng.	303288 011 421037 akaseke@eng.uz.ac.zw
10. Mr Shoko	Medicinal Plants,MET	701681/3, 701691/2
11. Chaumba G	Ozone Office	701681/3 ozone@ecoweb.co.zw
12. Mukwiza R	WSSD	701681/3, 701691/2 prepwssd@ecoweb.co.zw
13. Matyukira S.P	MET	701681/3, 701691/2 011 513142 sesematyu@yahoo.com
14. Mutepfa F	GLTP/NP	091 416987 fmutepfa@yahoo.co.uk
15. Chinyamakobvu O	SAZ	753800/2/011404855 oswaldsc@ecoweb.co.zw or sazlabs@mweb.co.zw
16. Kwesha D	Forestry Commission	496878/9/011410233 dkwesha@frchigh.co.zw
17. Murwira A	UZ	303211/ 332059 murwira@arts.uz.ac.zw

NAME	INSTITUTION	CONTACT No./E-mail
18. Mrs. M. Chasi	DNR	705661, 705671/4 zpn143@mweb.co.zw
19. Mr. J. Gandiwa	DNR	705661 011 759256 zpn143@mweb.co.zw gandiwaj@yahoo.co.uk
20. Gumbo R	Min of Energy and Power Dev.	734026 /791760/9 011870661 rabgumbo@yahoo.com
21. Mukuruba	Ministry of Agriculture	706081/9, 797389-95, 251323-5 Fax:729225 jmukuruba@yahoo.co.uk
22. Mr. Chidziva	Water Consultant	091247944 mchidziva@comone.co.zw
23. Chimutasha N	MET	757881-5
24. Mr Machekano	MET	757881-5
25. Machona M	MET Climate Change	702758 climate@ecoweb.co.zw
26. G. Gavaza	UTC	770623
27. Mr. Mahuni	Ministry of Water (Pax House, Opp. New Ambassador Hotel)	04-793914 011873960
28. Mr. A. Masveure	Ministry of Industry and International Trade (13th Floor, Mukwati Bldg)	04-791823/9, 011 511 435 Fax: 702738 amasveure@yahoo.com masveurelex@justice.com
29. Mr. T. Chimuti	National Parks	792786, 707624-9 Fax: 790567 091 242 550 792783 D/L citescom@mweb.co.zw
30. Ms. N. Nobanda	National Herbarium	Fax 708938 Tel: 744170 745230 nozinobanda@yahoo.com
31. Dr. K.S. Schmidt-Murwira	UZ	Schmidt@itc.nl, murwira@arts.uz.ac.zw
32. G. Gotora	Rural District Councils Association	011614538 725433 726526 Fax 732904
33. Mr. Mujaju	AREX	704531/5 Tel/Fax 728317
34. Mr Tavenyika	Foreign Affairs	7727005 091426369 Fax 703293 tavenyi2005@yahoo.co.uk
35. Ms S Mangundhla	Biodiversity Office	701681/3 701691/2
36. Mr. Nyoni	Civil Protection	728201/9 792478
37. Mr. Tsiga	Depart. Of Meteorology	778204-6