

NATIONAL ENVIRONMENTAL POLICY AND STRATEGIES

GOVERNMENT OF ZIMBABWE

MINISTRY OF ENVIRONMENT & NATURAL RESOURCES MANAGEMENT



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FOREWORD

Environment cuts across all sectors of the economy, and society at large, directly or indirectly affecting their functioning by providing a range of goods and services. The use of natural resources and environment in general, should not unduly impair the productive, assimilative or regenerative capacities of the environment. The Government is aware of the consequences of social and economic activities and their associated impacts on the environment, and has developed a number of initiatives to address the various environmental concerns within the country. In 1987, my Ministry drew a National Conservation Strategy (NCS) with the aim of promoting the sustainable use of natural resources through integrating socio-economic and environmental issues in development programmes. The contentious issues in the NCS were linkages between land degradation and growth, water and energy. The strategy only worked as a framework to guide aspects of environmental and natural resources management over the past one and half decade.

The need to develop an environmental policy was discussed at a national conference that was held as a follow up to UNCED and response to Agenda 21. The policy was to promote and achieve the goal of a clean, healthy and productive environment for all, and to direct and support activities of my Ministry in a rapidly changing world. The policy was to be practical, guided by the national development agenda; sensitive to values and interests of remote communities; harmonised with related policies and a product of effective national dialogue and consultations. The policy development process began in January 2003 with an initial consultative process at national and sub-national levels. The consultations were meant to canvass people's perceptions of key issues to be addressed by the policy and highlight what the Government should adopt. Ideally the policy was to fully and accurately reflect the interests, concerns and preferences of all key stakeholders on issues of environmental conservation, management and protection. The formulation process started in 2003 and involved setting up of a working group, steering committee, developing a proposal and holding consultative meetings and workshops at national, provincial, district and local levels. The first and second policy drafts were produced in June 2003 and September 2003 respectively, and the final document was produced and adopted in November 2005.

The overall thrust of the policy is 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 general standard of living of Zimbabweans."* This goal places the environment at the centre of economic activities for Zimbabwean people with the aim of reducing poverty and improving the quality of life. The policy has six key objectives with the main thrust being to ensure sustainable use of the environment and maintain the environmental integrity as well as allowing equitable access and public participation in environmental utilisation.

The formulation and adoption of this policy has created appropriate conditions for long term programmes that integrate sustainable resource utilisation with the country's social and economic development and rehabilitate those resources that are already degraded. My Ministry is consistent with, and will continuously promote the national agenda on sustainable development. With this in mind, I am convinced that the implementation of this policy will not only enhance environmental management but will, to a larger extent, improve economic development and the standards of living of the general populace in Zimbabwe.

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MINISTER OF ENVIRONMENT AND NATURAL RESOURCES MANAGEMENT

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1. INTRODUCTION

The environment cuts across most sectors of society and the economy, directly and indirectly affecting their functioning by providing a range of goods and services. Social and economic changes in turn can impact the environment by altering the demand for goods and services, sometimes to the extent of overwhelming its capacity to sustain this demand. From a policy perspective, any assessment of environmental issues must take into account these influences and feedbacks, represented by the Pressure-State-Response model (Figure 1), so as to ensure that the eventual policy responses are, to the extent possible, complete, appropriate and effective.

because many necessary human activities do change the environment, often significantly. Where this happens, steps need to be taken to ensure that there is a net gain to society as a whole (not just to one select group), and that the gain is long lasting, so that some of the benefits can be transferred onwards to future generations. Thus land conversion for agricultural purposes, which transforms part of the environment, or the exploitation of minerals through mining, which depletes a non-renewable resource, are acceptable provided that all reasonable measures are taken to minimise adverse impacts on other parts of the environment, and that the outcomes of these activities significantly benefit both present and future generations. In the case of a developing country such as Zimbabwe, the need to ensure the sustainability of the benefits arising from the use of the environment is

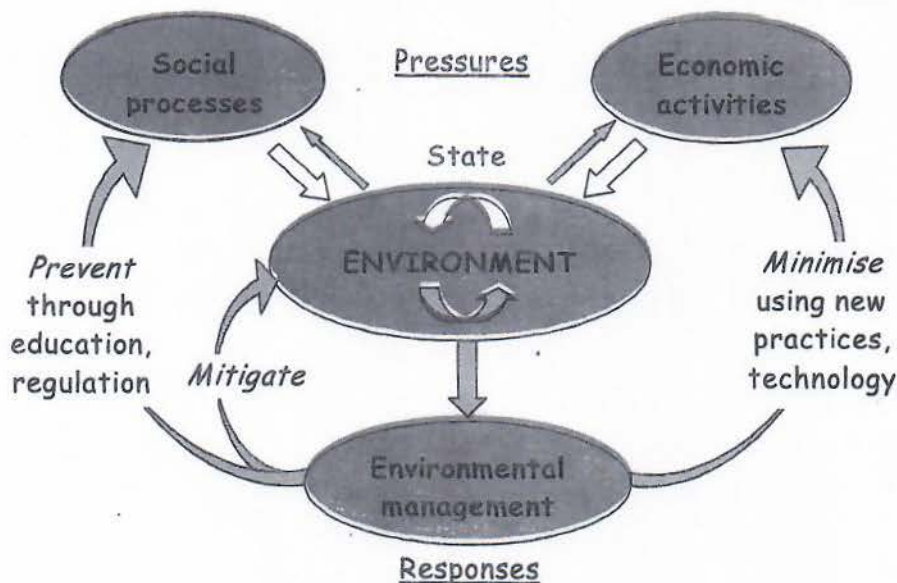


Figure 1. Relationships between the environment and the various social, economic and natural environmental pressures on it (pale arrows). The changes in state induced by these pressures in turn produce feedbacks on them, both naturally and by stimulating different kinds of environmental management response (dark arrows).

The other components, which also inform this policy, are the concepts of sustainable development (and sustainable living), and the ecosystem approach as means of integrating social, economic and environmental relationships.

The key principle of sustainable development is that of stewardship, that people have the right to use environmental goods and services for their benefit, but also the responsibility to look after the environment to ensure that the next generation is able to derive similar benefits. In practice, this means that our generation has a responsibility to use the environment in ways that do not unduly impair its productive, assimilative or regenerative capacities. This is the ideal, though it is difficult to realise

particularly pressing. There are special challenges in providing more food, water, energy, shelter, security, economic opportunities and other necessities for a growing population, while still being able to export raw materials to other countries, all without reducing the capacity of the environment to continue providing these goods and services.

In assessing the environmental impacts of social and economic processes a distinction can usefully be made between 'green' and 'brown' issues. 'Green' issues relate primarily to questions of natural resource use and conservation, while 'brown' issues are those associated with industrial development and its effects, most notably energy use, waste production, and pollution. Integrating

these issues and concerns within a broader social and economic framework, to encourage outcomes that are socially acceptable, economically efficient and environmentally supportable, is the essence of the ecosystem approach.

For development to be sustainable a framework of incentives, enabling and regulatory measures, and other provisions is needed to support these activities in ways that generate net benefits now, while safeguarding opportunities for future generations to sustain their development needs through using the environment in similar ways. This National Environmental Policy is aimed at providing the foundation for that framework.

2. POLICY OBJECTIVES

2.1. Vision

The vision for this policy follows closely the National Development Objective of the Government of Zimbabwe: *to alleviate poverty and improve the quality of life of the people of Zimbabwe*. The state of the environment is critical in determining whether this vision will be achieved, as it directly supports the livelihoods of the majority of people and underpins much of the economic activity of the country.

2.2. National Environmental Policy Goal

In line with the Vision, the National Environmental Policy Goal is *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 creation of employment*. This goal places the environment at the centre of efforts to create economic opportunities for people in Zimbabwe, thereby helping to reduce poverty and improve their quality of life.

2.3. National Environmental Policy Objectives

To achieve the proposed National Environmental Policy Goal, a number of specific environmental policy objectives need to be met. These are:

1. *Conserve biodiversity and maintain the natural resource base and basic environmental processes to enhance environmental sustainability.*
2. *Promote equitable access to and sustainable use of natural and cultural resources with an emphasis on satisfying basic needs, improving people's standard of living, enhancing food security, and reducing poverty.*
3. *Encourage sustainable development by optimising the use of resources and energy, and minimising*

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irreversible environmental damage, waste production and pollution, through incorporating provisions for environmental assessment and management in all economic and development activities.

4. *Promote public participation and a sense of responsibility for the environment through environmental education and awareness, and by promoting environmentally sustainable lifestyles.*
5. *Establish and support an effective institutional framework, committed to sustainable development and able to collate and manage environmental information.*
6. *Promote national interests by cooperating in drawing up and implementing international environmental agreements, and collaborating with neighbouring countries on transboundary environmental issues.*

3. KEY POLICY PRINCIPLES

The Government of Zimbabwe, in promulgating the Environmental Management Act [Chapter 20:27], set out a general framework of environmental rights and principles of environmental management within which plans for the management of the environment are expected to be formulated. These rights and principles are also intended to serve as guidelines in the exercise of any function concerning the protection or management of the environment in terms of the Environmental Management Act or any other enactment, and as a guide in interpreting, administering and implementing any other law in this regard. The General Rights and nine Principles are as follows:

3.1. General Environmental Rights

Every person shall have a right to—

- a) a clean environment that is not harmful to health;
- b) access to environmental information; and
- c) protect the environment for the benefit of present and future generations and to participate in the implementation of the promulgation of reasonable legislative, policy and other measures that—
 - prevent pollution and environmental degradation; and
 - secure ecologically sustainable management and use of natural resources while promoting justifiable economic and social development.

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3.2. General Principles

1. All elements of the environment are linked and inter-related, therefore environmental management must be integrated and the best practicable environmental management option pursued.
2. Environmental management must place people and their needs at the forefront of its concern.
3. The participation of all interested and affected parties in environmental governance must be promoted and all people must be given an opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation.
4. Environmental education, environmental awareness and the sharing of knowledge and experience must be promoted in order to increase the capacity of communities to address environmental issues and engender values, attitudes, skills and behaviour consistent with sustainable environmental management.
5. Development must be socially, environmentally and economically sustainable.
6. Anticipated negative impacts on the environment and on people's environmental rights shall be prevented, and, where they cannot be altogether prevented, be minimised and remedied.
7. Any person who causes pollution or environmental degradation shall meet the cost of remedying such pollution or environmental degradation and any resultant adverse health effects, as well as the cost of preventing, controlling and minimising further pollution, environmental damage or adverse health effects.
8. Global and international responsibilities relating to the environment must be discharged in the national interest.
9. Sensitive, vulnerable and highly dynamic or stressed ecosystems require specific attention in management or planning procedures, especially where they are subject to significant human resource usage and development pressure.

4. MAINTAINING ENVIRONMENTAL INTEGRITY

The environment is not static, neither in terms of its natural dynamics nor, increasingly, in the ways it is impacted by human activities. The central issue in formulating a credible and effective national environmental policy is how best to prevent, mitigate or control unwanted impacts without seriously compromising opportunities for national economic and social development. This requires a clear understanding of the state of the environment, the various pressures on it and their effects.

4.1. Air

Preamble

Air pollution has not traditionally been seen as a major environmental concern in Zimbabwe. Nevertheless, there is increasing evidence of deteriorating air quality in the main cities, particularly during the dry winter months when thermal inversions prevail, trapping particulates and noxious gases arising from motor vehicle exhaust fumes, industrial emissions, and both domestic fires and bush fires. Some of these air pollutants cause acute and chronic respiratory illnesses, particularly among the poor and the less privileged in society. Air pollution also adversely impacts the water, soils and vegetation on which people and wild life depend. Acid rain corrodes materials and buildings, increasing maintenance costs and reducing values. Greenhouse gas emissions may lead to weather modification and climate change. Since all countries are physically connected by atmospheric circulation, they need to cooperate on issues relating to the prevention and control of air pollution and its long-range transboundary effects.

Guiding Principle 1

The people of Zimbabwe have a right to clean air and a healthy environment.

Strategic Directions

- The Government of Zimbabwe will:
 - develop an integrated strategy for the control and management of air quality;
 - in consultation with the Standards Association of Zimbabwe, industry and other interested and affected parties, develop air quality standards and effective ways of achieving them;
 - ensure that developments which can impact air quality are subject to environmental impact assessment, and that the appropriate preventative and mitigating measures are implemented in accordance with an environmental management plan (EMP);
 - promulgate regulations to control gaseous and particulate emissions from point sources;
 - promulgate regulations to discourage widespread and unnecessary deforestation, and provide incentives to encourage reforestation and, where appropriate, afforestation, to increase carbon storage in the vegetation and soils;
 - provide incentives for industry to reduce the impacts of their activities on air;
 - promote measures to encourage the replacement of old and inefficient vehicles and industrial plants that cause air pollution;

- encourage research into, and development of, cleaner production technologies;
- encourage the reduction of emissions from widespread multiple point sources, such as domestic fires, by promoting the switch to cleaner-burning fuels or the use of more efficient and better ventilated stoves;
- work with neighbouring countries to control transboundary air pollution;
- support the research and monitoring needed to assess the effectiveness of these measures.

4.2. Water

Preamble

Water is both a strategic resource, vital to sustaining life, and an economic good that is often limited. The availability of and access to adequate amounts and quality of water is becoming a critical environmental issue, as just under one-quarter of all Zimbabweans lack access to clean water, with people in rural areas being most affected. Lack of access to clean water has a number of adverse consequences, most notably for human health and in raising the cost of treatment before the water can be considered suitable for use.

To achieve water security to meet both human needs and environmental flow requirements there is need to balance the competing needs of agriculture, industry, domestic users and the environment; protect catchments and water storage facilities; ensure equitable access for all to sufficient water of suitable quality to satisfy basic needs; put an economic value on water resources used for productive purposes; manage the risks posed by a variable and unpredictable climate; and share international waters fairly.

Past approaches to water development have focused largely on supply-side management, especially through building dams and drilling boreholes, but the number of suitable dam and borehole sites is finite. There are also considerable economic, social and environmental costs to supply-side developments, so the trend now is towards more integrated management of water supply and demand. In so doing, care is needed to ensure that solutions to one problem do not end up creating another potentially more serious problem. For example the construction of big dams for hydro-electricity or for irrigation schemes greatly reduces onward water flow, thereby decreasing the amount of water available to other users and has negative impacts on environmental functioning downstream.

Zimbabwe shares a number of water sources with neighbouring countries. These need to be developed and

managed in coordinated, integrated and environmentally-sound ways.

Guiding Principle 2

People have a right to potable water that meets the World Health Organisation (WHO) standards.

Strategic Directions

- The Government of Zimbabwe will continue to:
 - implement measures to ensure that people have equal access to water of suitable quantity and quality to meet their basic needs;
 - safeguard water quality by setting and enforcing guidelines for water quality and effluent discharge;
 - strengthen institutions to promote improved water and sanitation through the development of systems for water, re-circulation and purification;
 - ensure that industries adopt water management strategies to promote re-use and recycling with the object of reducing water consumption and effluent discharges;
 - encourage and, if necessary, require major users of water in industry to internalise the costs of water treatment;
 - develop water resources for poor communities through appropriate institutions;
 - establish programmes to educate the public on ways of improving water quality and the consequences of using poor quality water.

Guiding Principle 3

Water is needed to support the functioning of natural ecosystems.

Strategic Directions

- The Government of Zimbabwe will:
 - in allocating water, make provision to supply water of sufficient quantity and quality to sustain environmental functioning, including that needed to support wild life;
 - encourage research and monitoring to determine what environmental flows are needed to maintain the functioning of the major river systems of the country.

Guiding Principle 4

Optimal water resource development requires integrated management of both water and land resources at a catchment scale.

Strategic Directions

- The Government of Zimbabwe will:
 - ensure that land and water resources are planned and managed in an integrated, multi-disciplinary and inter-sectoral manner within catchments;
 - strengthen the means to ensure that there is adequate information on the quantity, quality, distribution, demand and consumption of the nation's water resources for purposes of policy formulation, planning and operational decision making;
 - continue to recognise and promote the multi-purpose use of water for domestic, agricultural, industrial and other uses as well as for maintaining environmental processes;
 - where necessary, promulgate regulations to prevent degradation of water sources through destructive land-use practices and inadequate effluent control;
 - require that all water-related developments be subject to environmental impact assessment and the implementation of environmental management plans;
 - strengthen and streamline procedures for equitable allocation of water-use permits;
 - regularly review water pricing policies, and establish mechanisms for distributing and pricing water fairly and equitably;
 - where appropriate, encourage and support payments to upstream land-users for managing water sources for the verifiable benefit of downstream water users;
 - provide guidelines for private-sector financing in the water sector in conjunction with measures to encourage self-financing so as to lessen the dependence on public funding;
 - support the expansion of irrigation and water harvesting, and provide training in irrigation management so as to minimise the risk of both soil and water degradation;
 - continue to support research into and monitoring of groundwater sources and recharge;
 - carry out and encourage others to undertake hydrological research on the interception and extraction of water by various land uses and assess the implications for downstream users.

Guiding Principle 5

Water development and management should be based on participatory approaches, involving policy makers, planners and users at all levels.

Strategic Directions

- The Government of Zimbabwe will continue to:
 - involve all relevant stakeholders in decision making on water-related issues by promoting their participation in catchment and sub-catchment water management institutions;
 - encourage greater public awareness of water resource issues, including water pricing and the need for water resources management;
 - disseminate information on water issues, recognising the importance of the linkage between participation and information exchange at all levels;
 - hold public consultations and hearings, where appropriate, on water management issues of public concern;
 - strengthen stakeholder-based management of water points in rural areas.

Guiding Principle 6

International co-operation over shared water resources is essential for their optimal, sustainable and equitable use.

Strategic Directions

- The Government of Zimbabwe will continue to:
 - manage shared watercourses within the frameworks of international and regional agreements to which Zimbabwe is a signatory;
 - work with other SADC countries to establish agreements and management institutions to ensure sustainable, equitable and reasonable use of shared water resources;
 - promote international cooperation in water resources management by sharing information and resources, and undertaking joint activities, including research, technology development and application, and capacity building, where appropriate;
 - promote the concept of managing the land and water resources of a shared watercourse on a catchment or basin level;
 - encourage ongoing integration of sectoral and regional water policies;
 - cooperate in avoiding, managing and resolving conflicts over shared water resource development and use.

4.3. Land

Preamble

Prime quality land for agriculture is in short supply in Zimbabwe. Land is used extensively, partly because low and erratic rainfall, and limited development of surface

water resources, restricts options for intensification. Moreover, across much of the country the soils are infertile or in some other way physically or chemically impaired. Without substantial inputs the yields of staple food crops are low, compromising food security. In the communal farming areas in particular, the continued growth of the human population is resulting in the expansion of arable agriculture onto steep hill slopes, grazing areas and wetlands. As a result, environmental quality is deteriorating, with widespread deforestation, soil erosion and gully formation. This loss of soil lowers agricultural potential, reducing crop yields even further, and leads to the siltation of rivers and dams downstream.

These problems are compounded by more fundamental issues. Past land alienation and inequitable allocation, coupled with insecure land tenure, have resulted in people with the fewest resources being settled on land that requires the greatest financial and technical inputs. Current moves to redress these historical imbalances have led to an upsurge in woodland clearance as new lands are created. If these developments are to be sustainable, adequate investments will need to be made to enable the new farmers to use the land productively over the long term. In areas where the prospects for sustainable agriculture are marginal, other land-use options need to be considered. These include the development of forestry out-grower schemes; agro-forestry projects; small-scale wood industries based on sustainable management of woodlands; intensive management of semi-domesticated wild species, game ranching, and wild life utilisation based on the Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) and conservancy models. Wild life production has been shown to be profitable on large commercial ranches but has still to be widely taken up as a land-use option in semi-arid communal farming areas.

Land degradation and erosion arise also from other land-use activities. Widespread and uncontrolled gold panning is a case in point. There is also concern about the reduction in protective plant cover and excessive soil erosion in some wild life areas resulting from growing numbers of species such as elephant. Whatever the causes, it is critical to have a framework of measures designed to encourage, educate people about and, where necessary, enforce sustainable land-use practices.

Guiding Principle 7

To maintain the capacity of the land to continue producing environmental goods and services requires adequate investment of financial, physical and human capital.

Strategic Directions

- The Government of Zimbabwe will continue to:
 - encourage the optimal and sustainable use of land, including non-agricultural uses;
 - provide and improve the research and extension services needed to support optimal land-use by landholders;
 - redress historical imbalances in the allocation of land, particularly for those communities from whom ancestral lands were alienated, and return to traditional leaders and communities rights and responsibilities over such lands, where appropriate;
 - review ways of modifying the land tenure system in communal and resettlement areas so that landholders have greater security of tenure and thereby the incentive to use the land more sustainably;
 - promote the development and enforcement of locally developed conservation by-laws.
 - promote the use of appropriate conservation measures and support the rehabilitation of degraded land on arable, grazing and residential lands.

Guiding Principle 8

Integrated land-use planning to achieve optimal and sustainable use of land, taking into account all land-use options, including agriculture, wild life production and forestry, is a pre-requisite for sustainable land reform.

Strategic Directions

- The Government of Zimbabwe will:
 - continue to develop and implement integrated land-use plans, and ensure that environmental concerns are fully taken into account, particularly in relation to the appropriate uses of land;
 - promote more intensive use of land rather than continued extensive land uses;
 - explore the feasibility of using Transferable Development Rights to secure optimum use of Zimbabwe's land resources;
 - promote appropriate land-use options for the different natural regions, especially the communal areas in Regions IV and V where intensified small-scale agriculture and non-agricultural land-use options can alleviate severe environmental stresses arising from human activities;
 - assist those communities resettled in areas that are unsuitable for agriculture to use the existing

- natural resources to full advantage, particularly through forestry- and wild life-based activities;
- assist communities in conservation matters and help them develop beneficial, value-added projects based on the sustainable use of natural resources;
- conduct environmental education programmes within the resettled communities to stimulate and promote community participation and accountability in conserving natural resources.

4.4. Biodiversity

Preamble

Zimbabwe is endowed with a rich diversity of life forms. At species level, the country supports an estimated 4,440 vascular plant species, 214 of which are found only in Zimbabwe (i.e. are endemic); 672 bird species, 450 of which breed in Zimbabwe, though none are strictly endemic; 196 mammal species, 156 reptile species, 57 species of amphibians, 132 fish species, and uncounted numbers of species in other groups. The diversity of microorganisms in particular is extremely poorly known, despite their importance in many ecosystem processes, including environmental self-cleansing, and human health (both as agents of disease and as sources of remedies). At the broader level, there are 25 recognised main vegetation types and a wide diversity of landscape features of both scientific and aesthetic importance. Considerable genetic diversity is also apparent in the varieties of form, colour and behaviour of many of these species, though that diversity still remains to be comprehensively documented.

This rich biodiversity, however needs to be protected as some of it is already vulnerable or endangered and may become extinct. The Southern African Plant Red Data Book lists 504 plant species from Zimbabwe, of which seven are possibly extinct, 54 are critically endangered, 29 are endangered, and 121 are vulnerable. Zimbabwe supports populations of 14 bird species of global conservation concern, one of which is classed as endangered, seven as vulnerable, with the balance being categorised as near-threatened. Among the mammals, one is considered to be critically endangered globally (Black Rhino), two as endangered [African Elephant and the Painted or African Hunting (Wild) Dog] and eight others are vulnerable.

4.4.1 Biodiversity conservation

Preamble

Zimbabwe is a signatory to the United Nations Convention on Biological Diversity and, accordingly, has obligations to implement the provisions of that

convention. This commitment is made explicit in the Environmental Management Act [Chapter 20:27], with provisions for identifying, measuring, conserving and using the country's biological diversity, and regulating access to its biological and genetic resources. In setting out policies and measures for conserving biological resources, distinctions can usefully be made among those that are aimed at conserving Zimbabwe's plant and animal resources, both as individual species and key components of whole ecosystems and the genetic component of these resources.

Guiding Principle 9

The biodiversity of Zimbabwe is the foundation of the natural heritage of the country.

Strategic Directions

- The Government of Zimbabwe will:
 - develop and coordinate the implementation of an integrated strategy for biodiversity conservation in Zimbabwe;
 - promote the adoption of the Ecosystem Approach, as formulated by the Convention of Biological Diversity, as the principle framework for integrated environmental conservation and management;
 - draw up a clear legislative framework for the conservation of biodiversity in Zimbabwe;
 - maintain its commitment to research on the nature, extent and functioning of biodiversity;
 - support the development of a comprehensive biodiversity inventory of all species and the monitoring systems needed to document this diversity and its change, and assessments of the effectiveness of conservation measures;
 - continue to identify and schedule those species of plants, animals and the range of genetic stocks within each species that need to be specially protected;
 - assess the potential threats to biodiversity conservation posed by modifications and transformations of both land and aquatic systems and commercial exploitation, and take appropriate measures to minimise the loss of biodiversity;
 - ensure fair and equitable access by all Zimbabweans to opportunities that support the aims of biodiversity conservation;
 - promote the development of a code of conduct governing the collection and use of potentially valuable biological material;
 - develop an integrated strategy to build environmental awareness and improve the

understanding of the importance of biodiversity through education and training at all levels;

- work with other countries to develop, promote and support international treaties and conventions that are consistent with Zimbabwe's policies on conservation and sustainable use of biodiversity for the benefit of all, without compromising the right of Zimbabweans to be the primary beneficiaries of the biodiversity within the country.

Guiding Principle 10

The conservation of biodiversity in all its forms is more likely to be sustained if there are economic incentives arising from the use of that biodiversity by those people living closest to the resource.

Strategic Directions

- The Government of Zimbabwe will continue to:
 - create and sustain opportunities and incentives for biodiversity conservation, nationally and locally;
 - encourage the conservation of biodiversity on communal and privately-owned land by promoting, among other measures, equitable access to and benefit sharing from the sustainable use of that biodiversity by the people on whose land it occurs;
 - devolve authority to community groups and secure their tenure and user rights of biodiversity, where appropriate.

4.4.2 Flora

Preamble

The plant resources of Zimbabwe are economically and culturally important, providing timber, food, medicines, spiritual values, and other goods and services to the people of the country, especially the rural communities. They occur in a range of ecosystems that include forests woodlands (both indigenous species and plantations of exotic commercial species), bush lands, wetlands and grasslands the major threats to these plant resources include loss of habitat, clearance of land for agriculture, harvesting of firewood and over-exploitation of some economically valuable species. Other factors contributing to the high rate of deforestation and degradation include unsustainable harvesting practices, elephant damage in some national parks and safari areas, and frequent late dry-season fires. Given that most people in rural areas depend on natural products derived from these woodlands to sustain their livelihoods, the on-going loss of woodlands gives cause for concern.

General Principle 11

As a major component of Zimbabwe's natural heritage, and as an economic resource, plant diversity and the ecosystems of which it forms part must be protected, conserved and used in sustainable ways.

Strategic Directions

- The Government of Zimbabwe will:
 - develop measures to integrate the conservation and sustainable use of plant diversity within national land-use programmes and management systems;
 - continue to ensure conservation and sustainable use of plant resources for economic development;
 - continue to develop and implement modalities for controlling and regulating access to plant resources, ensuring that these incorporate the principle of prior informed consent of the local communities that provided such resources or knowledge of their uses;
 - strengthen measures for regulating bio-prospecting and the collection of indigenous knowledge on the beneficial attributes and uses of plant resources so that the potential commercial value of both the knowledge and the resources is recognised and protected in the national interest, within the limits prescribed by international treaties and conventions to which Zimbabwe is a signatory;
 - establish and strengthen legislative and administrative provisions under which local communities can share equitably in the results of research and development and the benefits arising from the commercial and other uses of plant resources;
 - support community-based initiatives that promote biodiversity conservation through, for example, the establishment of community-conservation areas (CCAs), community seedbanks and nurseries, and moves to harvest non-timber forest products on a commercial but sustainable basis;
 - develop and implement a comprehensive plan to control the spread of invasive alien plant species generally on private and public lands, including through requiring landowners and occupiers to remove scheduled noxious invasive alien species from land under their control, while recognising that some alien plant species are economically important in both forestry and agriculture.

Guiding Principle 12

The many economic, environmental, cultural, spiritual and aesthetic functions and values of forests and woodlands need to be maintained, both for their intrinsic worth and for the contributions they make to human welfare.

Strategic Directions

- The Government of Zimbabwe will continue to:
 - enforce existing legislation and promote interventions and actions aimed at reducing deforestation and woodland degradation while enhancing sustainable management and utilisation of the country's forest and woodland resources;
 - ensure that forestry legislation and regulations provide a consistent and comprehensive framework for the long-term sustainable use of natural forests, and for the participation of people who depend on them for their livelihoods;
 - promote and support the management and sustainable use of indigenous woodlands and the maintenance of protective cover in catchments by finding ways to minimise the clearance of woodlands for agriculture, and the excessive harvesting of trees for household and small-scale industrial energy production and other needs;
 - support research into alternative fuel sources to reduce dependency on fuel wood and reduce deforestation levels;
 - encourage the establishment and maintenance of exotic plantations, woodlots and agro-forestry within farming areas as integral parts of sustainable agricultural landscapes;
 - promote the adoption of a multidisciplinary approach among institutions involved in all aspects of the use of forest land and encourage collaboration among all stakeholders in the forestry sector;
 - support the research, inventory and monitoring needed for sustainable forest management;
 - strengthen the capacity of the Forestry Commission to provide advice and support for implementing sustainable forest management programmes and to regulate use of the national forest estate.

4.4.3 Fauna**Preamble**

Wild life is the foundation for both the Natural Resources Management and wild life industries of Zimbabwe. Much

of the focus of conservation to date has been on the diversity of large mammals, birds, some fish species, and attractive landscapes, not only within protected areas but more widely across the country. Allowing private landowners and rural communities to use wild life commercially, has produced a range of material benefits and done much to promote a positive environment for conservation. Wild life now has a value, which in turn is providing incentives for conservation.

Guiding Principle 13

The best custodians of wild life and other natural resources are those landholders, including local communities, who are able to benefit directly from the use of the wild life on their land.

Strategic Directions

- The Government of Zimbabwe will:
 - encourage the conservation of wild life outside the Parks and Wild Life Estate by promoting, among other measures, the sustainable use of that wild life for the primary benefit of the people on whose land it occurs;
 - seek to diversify land use in the agriculturally more marginal areas of Zimbabwe by promoting the CAMPFIRE concept, under which rural people are granted the authority to manage their wild life and other natural resources for their own benefit;
 - use the Parks and Wild Life Estate as the foundation for a rurally-based wild life industry;
 - take the necessary legal and enforcement measures to prevent the illegal use of wild life.

4.4.4 Genetic resources**Preamble**

There is considerable interest globally in the genetic component of biodiversity, particularly as a basis for genetic engineering. Given the possible economic benefits from using genetic diversity, it is important to ensure that local entrepreneurs and industry can be involved in developing biotechnology products, alone or in partnership with outside organisations. There is a potential for bio-piracy by those intent on developing commercial products elsewhere, so measures are needed to prevent illegal removal of genetic material and the theft of intellectual property, in the form of indigenous technical knowledge.

There are also environmental concerns regards modification of genetic material. Wild populations may be at risk of being contaminated by genetically modified organisms (GMOs), which could lead, for example, to the

development of more aggressive weeds or species with altered resistance to diseases or environmental stresses upsetting the ecosystem balance. Diversity may also be lost through the displacement of traditional cultivators by a small number of genetically modified cultivars. A reduction in genetic diversity in wild populations lessens the likelihood that they will be able to adapt to environmental change, including changing climate. A better understanding of the interactions between GMOs and other species in the environment is therefore needed for informed decision-making. The likely environmental impacts need to be critically evaluated and, where necessary, the release of the GMOs strictly controlled.

Guiding Principle 14

Plant, animal and microbial genetic resources, including the genetic diversity present in indigenous domesticated varieties, are a potentially important economic and ecological resource that must be conserved.

Strategic Directions

- The Government of Zimbabwe will:
 - promote the conservation and sustainable use of plant, animal and microbial genetic resources for economic development;
 - regulate bio-prospecting and the collection of genetic material, to ensure protection of these resources in the national interest;
 - support the development of local capacity to research on the uses and benefits of local genetic resources, monitor the availability and use of biological materials and information, and manage these appropriately;
 - incorporate the principle of prior informed consent of those local communities providing access to these genetic resources and to knowledge of their traditional uses;
 - establish appropriate legislative and administrative measures to ensure that the benefits of commercial development, or any other uses, of plant, animal and microbial genetic resources are shared with the communities from which they are obtained;
 - build capacity within the enforcement agencies to identify and prevent biopiracy;
 - promote the establishment of *in situ* gene banks, and the propagation and multiplication of open-pollinated crop varieties;
 - continue to monitor and regulate the introduction and use of GMOs.

4.5. Protected areas

Preamble

Almost 15 per cent of Zimbabwe is currently under some form of statutory protection. Whereas this represents a substantial area, the adequacy of this network in protecting the full range of biodiversity of the country, as well as the long-term viability of these areas, in both ecological and economic terms, needs to be assessed. In some cases, innovative means will need to be sought to ensure the integrity of these areas, particularly the smaller botanical reserves, recreational areas and forest reserves. These means could include co-management and sharing of benefits with neighbouring communities; setting up concession areas, provided that they contribute towards conserving biodiversity; and promoting the protection of sites of high conservation value within areas employed for other purposes.

Guiding Principle 15

The conservation of biodiversity and other natural resources requires a multi-faceted approach, including setting aside natural areas as strict nature reserves, wilderness areas and national parks, complemented by the establishment of other areas in which varying kinds and degrees of use of the natural resources are permitted and encouraged.

Strategic Directions

- The Government of Zimbabwe will continue to:
 - make provisions to set aside, protect and manage selected areas of the country as representative examples of the biological diversity of Zimbabwe;
 - maintain the Parks and Wild Life Estate and State Forest Land for the conservation of the nation's wild resources and biological diversity;
 - take measures to ensure adequate protection of representative ecosystems and any key species or habitats that are not represented in the Parks and Wild Life Estate and State Forests, including the designation of selected areas as Biosphere Reserves;
 - encourage the establishment of nature reserves in or adjacent to urban areas;
 - promote and support community-based initiatives, including the formation of community conservation areas and conservancies, to protect biodiversity outside the Parks and Wild Life Estate and State Forests.

Guiding Principle 16

Given the complexities and uncertainties inherent in the functioning of natural systems, management of protected areas needs to be flexible and adaptive, and based on sound science.

Strategic Directions

- The Government of Zimbabwe will:
 - encourage the development of cost-effective and adaptive institutional arrangements for managing wild life and protected areas;
 - where appropriate, promote co-management of areas within the Parks and Wild Life Estate and State Forests by the authorities for those areas and neighbouring communities;
 - promote and implement measures to ensure that people originally displaced by the establishment of protected areas, and who currently live adjacent to such areas, are the primary beneficiaries of economic activities, such as Natural Resources Management, carried out in these areas;
 - harmonise the management of the Parks and Wild Life Estate and State Forests with the efforts of neighbouring communities and landholders who are developing wild life as a sustainable form of land use;
 - insist on environmental impact assessments and environmental management plans for all developments that threaten to adversely affect wild life and protected areas.

4.6. Transboundary Natural Resource Management

Preamble

Transboundary Natural Resource Management (TBNRM) involves cooperation across national boundaries to enhance the management of shared or adjacent natural resources for the benefit of all parties. This requires integrated planning and coordinated actions by management agencies in the respective countries. There are, however significant challenges in establishing TBNRM areas, including issues of sovereignty and national security; the harmonisation of policies, legislation and law enforcement in the countries concerned; determining what kinds of joint decentralised management arrangements are best, particularly those related to sustainable use and equitable sharing of resources and the benefits arising from them; and how to strengthen existing or establish new local institutions to govern these arrangements. Other areas of concern include the question of land tenure and property rights;

veterinary controls; and the need for more flexible immigration and custom arrangements.

Guiding Principle 17

Collaboration between countries over shared transboundary natural resources ensures more effective and sustainable development of these resources independent, uncoordinated initiatives.

Strategic direction

- The Government of Zimbabwe will:
 - work with neighbouring countries to enhance biodiversity conservation in the region through drawing up and implementing transboundary management agreements;
 - develop a national vision for TBNRM initiatives;
 - promote cross-border collaboration and cooperation in drawing up and implementing economic development and environmental management plans with neighbouring countries including joint master plans on the natural resources in TBNRM areas;
 - enhance the integrity of transboundary ecosystems and related natural processes by harmonising wild life management practices with those of neighbouring States, including removal, where feasible, of artificial barriers that impede the natural movement of populations;
 - explore ways to develop the natural resources in border areas in an optimal and remove any domestic legislative and administrative barriers preventing this;
 - set up mechanisms that promote the integrated management and sustained use of shared resources, including the exchange and management of information on shared resources and land use systems;
 - notify neighbouring countries of any significant environmental disasters and major incidents of transboundary pollution, and collaborate in mitigating their impacts.

Guiding Principle 18

Transboundary Natural Resource Management provide opportunities for people living in remote areas to participate in environmental governance, benefit from economies of scale in both development and environmental management, and ensure the conservation and sustainable use of shared resources across national boundaries.

Strategic Directions

- The Government of Zimbabwe will:
 - develop policies and measures to allow local communities to participate fully and effectively in any transboundary developments in their areas, including safari hunting and ecoNatural Resources Management, and to benefit directly and equitably from these developments;
 - in setting up TBNRM areas, take into account the cultural values, indigenous knowledge systems, conservation practices and key resource areas of the communities involved and where possible, build on existing community-based local initiatives to promote the concept of sustainable natural resource management;
 - encourage and facilitate communities and community-based organisations to set aside and assume responsibility for community conservation areas within or adjacent to transboundary conservation areas;
 - promote integrated management and controlled use of shared natural resources for sustainable development by encouraging the formation of social and economic partnerships among government agencies, local authorities, local communities, the private sector, and non-governmental organisations;
 - promote the harmonisation of policies, laws and programmes affecting local communities in TBNRM areas.

5. SOCIAL ISSUES

The demand for resources and the environmental pollution caused by waste from the use of these resources are major sources of human pressure on the environment. These pressures in turn are broadly affected by the level and pattern of affluence of the population and the technologies available for resource extraction and processing of the products. This broad relationship is substantially modified locally by, among others, people's level of human well-being and their attitudes to the environment, as shaped by the level of general education and environmental awareness; and the social, political, economic, institutional and cultural frameworks of a society. The economic forces that drive the demand for resources on the one hand, and provide the means to manage and mitigate the effects on the other, are also important determinants.

5.1. Population and the environment

Population growth is widely seen as a driver of human-induced environmental change, though the precise nature of the impacts is mediated by a range of other factors. Rapid population growth in Zimbabwe used to be perceived as the main problem for the environment, as a

growing population requires more land, food, water and other natural resources, and potentially produces more waste and pollution. More recently, with a decline in the rate of growth the focus is on the optimal population size for Zimbabwe, in terms of the country's social and economic development and the capacity of the environment to support development at different sizes of population, and how these dynamics are affected by population distribution and density.

5.1.1 Size and growthPreamble

Although Zimbabwe's population is still growing, the rate of growth has declined in recent years. Several reasons may account for this: the success of the family planning programme, high literacy levels, rapid urbanisation, emigration, and the high rate of infection with HIV/AIDS. An optimum-sized population is vital to ensuring sustainable development.

Guiding Principle 19

An optimum balance needs to be achieved between population growth, sustainable development and environmental conservation and protection.

Strategic Directions

- The Government of Zimbabwe, in partnership with other stakeholders, will:
 - develop an integrated population strategy aimed at achieving an optimum balance between the rate of population growth and sustainable environmental production;
 - work to ensure that the gains made in education, family planning and urbanisation are maintained, so as to enhance the country's capacity to continue developing in sustainable ways.

5.1.2 Population distributionPreamble

The distribution of the population of Zimbabwe does not reflect the agricultural productivity of the land. Two-thirds of the rural population live on the less productive land, a legacy of the colonial history of the country. Attempts at land reform have not remedied this situation to any significant extent. High population densities in these marginal lands continue to put pressure on the environment. As a result, people are drifting from the countryside to towns and cities so that about 35-40 per cent of people now live in urban areas. Whereas this may be relieving some of the pressure in rural areas, it means

increasingly concentrated demand for water, energy and services; and greater waste and pollution in urban areas. Rural and urban areas are part of an interlinked, mutually reinforcing system and so need to be considered together for planning purposes. Given the lags in developing the necessary supporting infrastructure, however, the rapid re-distribution of the population complicates efforts to plan and manage these environments for sustainable development.

Guiding Principle 20

An integrated, multi-sectoral and spatial approach to planning for population growth and distribution is needed to ensure sustainable development and environmental protection.

Strategic Directions

- The Government of Zimbabwe will:
 - encourage an integrated approach to planning for population growth and distribution in both urban and rural areas so as to ensure effective trade-offs between the development needs in different areas and the requirements for sound environmental management.

5.1.3 Health and mortality

Preamble

The HIV/AIDS pandemic is arguably the most pressing current health problem facing Zimbabwe. The high incidence of illness and death associated with the disease is impoverishing many families. People are increasingly turning to traditional healers for medicines, most of them obtained from plants in the wild. Additionally, people are increasingly exploiting natural resources to generate income to pay for medicines and other items. Both may have serious long-term consequences for the viability of some species due to excessive harvesting.

Besides HIV/AIDS, a suite of more conventional diseases such as malaria, bilharzia, tuberculosis, diarrhoea, cholera and acute respiratory infections are prevalent, the incidences of which depend largely on environmental conditions. Some of these diseases are intensified by environmental degradation or pollution of air and water. Thus, there is a need to deal with the problem of emissions, effluents, and solid wastes from an integrated health and environment perspective.

Guiding Principle 21

A healthy and safe environment is a prerequisite for a healthy population.

Strategic Directions

- The Government of Zimbabwe, in partnership with other stakeholders, will:
 - explore ways in which families deprived of breadwinner(s) or who cannot afford health care can be assisted so that they do not become over-reliant on the use of natural resources to the detriment of the environment;
 - support research into medicinal plants that will lead to their sustainable use and the delivery of meaningful benefits to people and the environment;
 - promote and support the treatment of and monitoring of water supplies and the proper disposal of waste so as to reduce the burden of disease arising from them;
 - promote and support research into appropriate environmental management techniques aimed at controlling parasites that cause diseases;
 - consider carefully the environmental costs and human health benefits associated with reintroducing the use of some poisonous chemicals that control pests such as DDT, and ensure that any such use is strictly controlled and limited as far as possible;
 - ensure that irrigation schemes are properly designed so as to minimise associated human health impacts;
 - promote research into changes in attitude towards the burial of the dead, given the limited land available for cemeteries and the risk of groundwater contamination from burial sites.

5.2. Poverty and the environment

Preamble

Poverty presents a particular challenge for environmental management as the poor, in their search for means to sustain themselves, often engage in activities that unintentionally damage the environment. They cope with unconstrained extraction of resources from the environment, for example, gold panning and firewood sale. They also clear unsuitable land for purposes of subsistence agriculture. The alleviation of poverty is a central element of the Government's national development objective. As a result Government has promoted a series of multi-faceted poverty reduction initiatives across the country that include: land redistribution, public works, food for work programme and CAMPFIRE, all of which contribute to poverty

reduction. Such initiatives can have important multiplier effects on food production, further income generation and on sustainable development.

Guiding Principle 22

Reducing poverty requires securing and enhancing the assets of the poor, especially the environmental assets from which many derive their livelihoods.

Strategic Directions

- The Government of Zimbabwe, in partnership with other stakeholders, will:
 - continue to integrate poverty-environment issues into national development frameworks;
 - consistently define, monitor and assess poverty-environment linkages;
 - strengthen the rights of the poor and vulnerable groups to access and use natural resources on a sustainable basis, including for purposes of income generation;
 - provide incentives for employment creation, especially in rural areas, to lessen the dependence on land and natural resources as the principal sources of livelihood;
 - continue working to reduce the vulnerability of the poor to environmental shocks and stresses;
 - strengthen anti-corruption efforts to protect the poor and those aspects of their environment from which they derive their livelihoods.

Guiding Principle 23

A sustained reduction in poverty requires coordinated actions locally, nationally and internationally.

Strategic Directions

- The Government of Zimbabwe, working with other stakeholders, will continue to:
 - implement fiscal reforms and encourage local and foreign direct investments that are pro-poor and pro-environment;
 - encourage appropriate private sector involvement in pro-poor environmental management by promoting private sector and local community partnerships in environmental management;
 - make available funding for research activities on environment and poverty reduction;
 - enhance the contribution of multilateral environmental agreements to poverty reduction by promoting the principle of sustainable consumption and production in international discussions and agreements on poverty reduction and sustainable development.

5.3. Social diversity and the environment

Preamble

Zimbabwean society comprises a diversity of social groups each of whom interact with the environment in different ways in pursuit of their livelihoods. These include men and women separately, the youth, the elderly and those whose physical and mental capacity has been impaired. Whereas sustainable use of the environment ultimately requires cooperation among the groups, there is need to recognise and respond to the interests and concerns of vulnerable groups and to more actively involve them in formulating environmental policies, programmes and plans.

Guiding Principle 24

Vulnerable groups within society need special provisions that guarantee equitable access to natural resources.

Strategic Directions

- The Government of Zimbabwe, in partnership with other stakeholders, will:
 - promote measures to ensure equitable access by vulnerable groups to environmental resources and livelihood opportunities;
 - mainstream gender within its environmental policy, planning and management initiatives by mobilising men and women in programmes aimed at achieving equitable and sustainable use of resources;
 - promote a better understanding of environmental issues and concerns by the youth through enhanced access to information using all forms of media and through setting up forums for their participation and involvement in discussions of, and actions on, key environmental issues at local and national levels;
 - provide incentives to organisations promoting the engagement of vulnerable groups in environmental issues;
 - encourage and involve vulnerable groups in international environmental conventions and their implementation;
 - encourage the incorporation and application of the traditional environmental knowledge of the elderly in resource management;
 - create an enabling environment that allows the mentally and physically challenged persons to participate fully in all areas of environmental concern.

5.4. Cultural resources and the environment

Preamble

Zimbabwe has a number of sites of great cultural and historical significance that are an attraction to visitors and form one element in the strategy of marketing the country to potential tourists. Consequently, it is necessary to integrate the conservation of these cultural resources with the broader conservation of the environments in which they are embedded, and to consider the extent to which development may impact adversely on their conservation.

Guiding Principle 25

Planning of development projects must respect the cultural resources of the society so as to preserve such resources for future generations.

Strategic direction

- The Government of Zimbabwe will:
 - take measures to ensure effective protection and sustainable use of Zimbabwe's cultural resources;
 - make provision for the integrated management of cultural resources within development projects and ensure that the impacts of development projects and activities on cultural resources are adequately addressed in environmental impact assessments.

5.5. Environmental education

Preamble

Despite the high levels of literacy among Zimbabwe's population, people are still carrying out activities that degrade the environment. This might be because of the prevailing high rate of poverty, with people being forced through circumstance to over-exploit their environment; lack of appropriate educational materials in local languages; or/and due to an overemphasis on the biophysical aspects of the environment with insufficient consideration of the social, economic and political elements. Environmental education that is practically oriented and supported by appropriate educational material is therefore needed at all levels, including informal and non-formal education. Establishing environmental education centres from communities upwards, as proposed in Zimbabwe's Environmental Education Policy, is one possible way of raising awareness in all sectors of the population.

Guiding Principle 26

A knowledgeable and well-informed public on environmental issues is essential for effective environmental conservation and management.

Strategic Directions

- The Government of Zimbabwe, in partnership with stakeholders, will:
 - improve the effectiveness of existing environmental education programmes by promoting the inclusion of both scientific and indigenous knowledge and practices in formal, informal and non-formal teaching, learning, training and extension programmes;
 - integrate relevant environment issues into the national curriculum at all levels;
 - continue to support educational programmes to increase environmental awareness and public involvement, especially among the disadvantaged and less literate groups;
 - encourage and support capacity building and training programmes to enhance the skills and understanding of education personnel on environmental issues;
 - promote the use of local languages and drama in environmental education;
 - provide incentives for institutions engaging in environmental awareness and education;
 - establish monitoring and evaluation mechanisms to ensure the relevance and effectiveness of environmental education programmes.

5.6. Indigenous Technical Knowledge

Preamble

The Convention on Biological Diversity (CBD) acknowledges and provides for the respect, preservation and maintenance of knowledge, innovations and practices of indigenous and local communities who are following traditional lifestyles that uphold the conservation and sustainable use of biological diversity. Indigenous knowledge is also treated as a capital asset within the sustainable livelihoods framework. The CBD and other international agreements make provisions for countries to protect the property of indigenous knowledge and practice by developing their own unique or *sui generis* legislative frameworks in terms of which the collective rights of communities to own their knowledge and innovations, as well as to be custodians of both their culture and the environment, are acknowledged and safeguarded. Among the options available for protecting and promoting indigenous knowledge systems within such a legal framework are: formulating comprehensive legislation governing access to this knowledge and any subsequent sharing of benefits; drawing up contractual arrangements on access to biodiversity and genetic resources within an area; and basing all these within national environmental law.

Guiding Principle 27

Indigenous technical knowledge and traditional practices have a valuable contribution to make to the management and sustainable use of natural resources.

Strategic direction

- The Government of Zimbabwe will:
 - promote wider application of indigenous knowledge and practice in managing and using natural resources sustainably, particularly where these are integral to local culture;
 - encourage the documentation, dissemination and use of indigenous technical knowledge on management and sustainable use of natural resources.

Guiding Principle 28

Communities and individuals have the sovereign right to retain or share their indigenous technical knowledge and practices concerning the properties and uses of natural resources, and should therefore benefit equitably from any use of that knowledge.

Strategic Directions

- The Government of Zimbabwe will:
 - develop and implement adequate measures, including codes of practice, for the protection of indigenous and intellectual property rights of local communities;
 - promote the equitable sharing of benefits arising from the use of indigenous technical knowledge and practices;
 - establish the means to monitor and enforce equitable sharing of benefits.

Guiding Principle 29

Individuals or communities with unique indigenous technical knowledge or practices concerning natural resources should be fully informed beforehand, and understand, the economic and other implications of granting consent for the use of such information.

Strategic Directions

- The Government of Zimbabwe will:
 - establish requirements and procedures for enforcing the principle of Prior Informed Consent;
 - empower local people to request the necessary information about the intended uses and likely benefits of the collection of genetic or other biological resources from their lands, thereby enabling them to give their consent in the full

knowledge and understanding of the implications;

- encourage full disclosure of information about new products or knowledge developed from the collected materials.

6. ECONOMIC ISSUES

Zimbabwe is endowed with considerable human and natural resources that can serve as a foundation for economic development and wealth creation. The linkages between economic development and environmental performance are complex, however, and not always fully understood. The demand for and use of materials, energy and water in support of economic activity, and need to provide infrastructure to sustain these activities, can generate significant direct and indirect environmental impacts, so that in the long term, environmental degradation and the over-exploitation of economically-important renewable natural resources can negatively affect development itself. Conversely, economic growth and development can provide resources needed to ensure environmental protection and rehabilitation. For economic activity to contribute to the wider goal of sustainable development, a balance needs to be struck between growth and development; and ensuring the continued productivity of the environment, for present and future generations.

6.1. Impacts of economic performance on the environment

Preamble

Zimbabwe has been experiencing economic decline over the past five years with economic output declining in all sectors. The rising poverty and growing economic inequalities are major contributors to environmental degradation as many people now seek their livelihoods in ways that impact negatively on environmental functioning. This suggests that faster rather than slower economic growth is needed to ensure long-term environmental quality and productivity. Nevertheless expanded economic activity has the potential to intensify pressures on the environment in the short term; by increasing the rate of extraction of natural resources; shifting the patterns and locations of resource use; creating more demand for energy and water; and producing more waste and pollutants. A proactive approach is needed to manage these problems at the outset rather than responding only when the problems have become acute.

Guiding Principle 30

A sustainable growth and development strategy puts the welfare of the country's citizens first while ensuring that its natural resources and environment are conserved for use by present and future generations.

Strategic Directions

- The Government of Zimbabwe, working in partnership with the business sector to encourage a high rate of economic growth, increased employment and wealth creation, will:
 - take environmental considerations into account, including through creating a system of natural resource accounting to measure the impacts of economic development in terms of depletion or change in the quality of natural resources stocks, so as to ensure that development is sustainable;
 - encourage environmentally sensitive and sustainable use of land by establishing a system of Tradable Development Permits that could offer landholders incentives to forego the development of marginal land;
 - support the extension of the CAMPFIRE concept to all natural resource exploitation in those communal lands endowed with tradable natural resources;
 - address social inequalities by helping small- and medium-scale enterprises and the informal sector to operate in more environmentally-responsible ways and, where possible, to undertake appropriate environmental management;
 - promote complementarity of developments in the agricultural, industrial, retail and social services sectors and their contribution to reducing unemployment and thereby lessening the overall dependence of people on uncontrolled extraction of natural resources;
 - encourage and support the development of local natural resource-based agro-industry projects at growth points and service centres;
 - put in place appropriate measures and instruments to deter or eliminate corruption and immoral and unethical activities that promote the smuggling and degradation of the country's natural and financial resources.

6.2. Environmental impacts across economic sectors**Preamble**

Each economic sector produces environmental impacts through its consumption of energy, water and materials,

and the production of emissions, effluents and solid waste. Environmental policy needs to anticipate the kinds of changes that are likely to occur, and make provision for offsetting, minimising or avoiding likely deleterious impacts.

6.2.1 Mining**Preamble**

Zimbabwe has more than 1,000 mines producing about 35 minerals, making mining one of the main sectors of the economy. The sector has been subject to considerable environmental impact assessment. The assessments have shown that the main environmental impacts associated with mining, apart from the depletion of a non-renewable resource, are noise, dust and air pollution; contamination of both surface and groundwater by chemical and heavy metal leachates from mine dumps; soil erosion and substantial transformation of the land cover and topology on and around the mine site. Overall the environmental impacts vary with type and scale of mining, its degree of mechanisation and its organisation.

An emerging issue in Zimbabwe is that of small-scale mining. Small-scale mining ventures include itinerant gold panners who mine alluvial and riverbed gold deposits. The small-scale miners generally do not have the organisation, capital, equipment and know-how to anticipate and manage adverse environmental impacts of their activities. Finding ways to address the environmental impacts of mining at this scale poses a major challenge to all involved. Measures are needed to ensure that the positive economic benefits of mining are not outweighed by its negative impacts on the environment.

Guiding Principle 31

Mining needs to be environmentally sustainable.

Strategic Directions

- The Government of Zimbabwe, in consultation with the mining industry, will:
 - continue to require environmental impact assessments for all mining developments, so as to identify and prevent, mitigate or offset adverse on-site and off-site environmental and social impacts of the development;
 - continue to encourage mining companies to develop, implement and sustain environmental management plans, including provisions for periodic review and revision, where necessary;
 - encourage the development of more effective processes for identifying, assessing and mitigating or avoiding adverse environmental

impacts, through the review of environmental impact assessments and the results of monitoring and assessment;

- require mining companies to develop and set aside the resources for implementing mine closure plans, aimed at rehabilitating the mine site and surrounding affected areas to the extent possible, so as to reduce the long-term negative environmental effects;
- define more clearly, and refine, where appropriate, the norms and standards of environmental performance, regulatory controls, management practices, environmental auditing and reporting requirements, so as to promote and improve best practice within the mining industry;
- address the issue of the environmental impacts due to small-scale formal and informal mining activities and, working with the miners concerned, find ways to avoid, mitigate or offset adverse environmental impacts, including through technology development, provision of extension services and regulation;
- introduce taxes/levies to mitigate negative environmental impacts arising from the activities of the mining sector;
- support the extension of the CAMPFIRE concept to mineral exploitation in those communal lands endowed with mineral wealth, and ensure that local communities get royalties, while those who benefit are encouraged to re-invest some of their profits in the communities concerned;
- ensure that local authorities enforce by-laws pertaining to issuing of licenses/permits to alluvial miners to promote better management of the negative impacts of their mining activities on the environment;
- strengthen the capacity and ability of the Mines Inspectorate to adequately monitor and offer advice to the mining industry on sound environmental practice;
- encourage regional cooperation in mining environmental management through participation in regional mining initiatives.

6.2.2 Agriculture

Preamble

Agriculture is the mainstay of the Zimbabwe economy. More than 70 per cent of the people live in rural areas and depend directly on agriculture as their primary source of livelihood. The communal lands of Zimbabwe are of particular concern from an environmental perspective, as they are over-crowded, over-stocked, deforested and

degraded with prevalent soil erosion and decline in soil fertility. Current land-use practices if not changed are likely to lead to more degradation and reduced agricultural productivity, further jeopardising household food security, income and employment at all levels. Ultimately this must put at risk the prospects for sustainable economic growth and development in the communal lands.

To be sustainable therefore, agriculture in the communal lands requires interventions that will help to intensify and increase production on better quality land; reduce the degradation of the remaining woodlands and grazing lands; rehabilitate badly affected areas, so as to restore some of their former productivity; and improve the overall efficiency and effectiveness of such efforts. It also requires working to decouple economic growth from natural environmental constraints and setting up the means to use the natural resource base sustainably.

Guiding Principle 32

Agriculture development should be conservation-based, designed to reduce environmental damage and promote the sustainable use of renewable resources by protecting the structure, functioning and diversity of the natural systems on which agricultural production depends.

Strategic Directions

- The Government of Zimbabwe, working with the agricultural sector, will:
 - ensure that environmental management principles are integrated into the general agricultural development policy;
 - promote integrated natural resource and environmental management through its extension services for all agricultural projects aimed at stimulating increased agricultural output;
 - invest adequate resources in improving human capacity and skills for sustainable agriculture at individual farmer and rural community levels;
 - promote research and development of environmentally sustainable cropping and livestock production systems and other appropriate farming practices that make better use of the land, rainfall and other resources at lower costs to the environment;
 - require that all new major land-use projects be subject to environmental impact assessment, to ensure that they are planned and implemented in ways that do not compromise environmental sustainability;
 - promote institutional arrangements that allow for more efficient enforcement of rules and

regulations for resource use and management in agriculture;

- conduct and encourage further research on the environmental impacts of wetland and stream-bank cultivation, including ways to minimise any adverse effects;
- assess, and find ways to minimise, the environmental impacts of peri-urban agriculture, industrial expansion and urbanisation;
- promote programmes to prevent, reduce or mitigate various forms of environmental degradation in farming areas to ensure adequate protection of the environment;
- invest adequate resources in projects and programmes for rehabilitating degraded lands to restore their productivity;
- promote the cultivation of indigenous and organic crops as part of a national food security strategy and sustainable agriculture;
- encourage active public participation in and contribution to setting priorities on the most practical measures for resolving environmental problems in agriculture.

Guiding Principle 33

Agriculture development, while promoting optimal land use and production, must take into account the conservation of biodiversity and the maintenance of stability and resilience of agricultural ecosystems.

Strategic Directions

- The Government of Zimbabwe will:
 - seek to minimise the impacts of agricultural and rural development programmes on national parks and other protected areas, natural forests, wild life conservancies and cultural heritage sites;
 - develop specific guidelines for the conversion of prime agriculture land for non-agriculture use;
 - develop specific guidelines for sustainable use of river systems, underground water and for the management of wetlands used for agricultural purposes;
 - encourage, through appropriate price and non-price incentives, individual farmers to protect cultural heritage sites, and threatened plant and animal species found on their farms;
 - support relevant institutions to identify species of plants, animals and the range of genetic stocks within each species and ecosystems to be protected from or through agricultural activities;

- encourage and support regular participatory assessments of the impact of agricultural activities on biodiversity and the environment.

Guiding Principle 34

Wherever possible, ownership of and access to natural resources in agriculture should be based on property rights that empower farmers to use their natural resources sustainably.

Strategic Directions

- The Government of Zimbabwe will continue to:
 - promote the development of policies and legislative provisions on land tenure that empower smallholder farmers to use their natural resources sustainably;
 - review, develop and apply rules and regulations to make individual farmers or farming communities accountable for their actions regarding natural resources use for agriculture.

Guiding Principle 35

Agricultural and rural development strategies are best based on diversification and transformation of the rural economy to reduce dependence on use of the natural resources.

Strategic Directions

- The Government of Zimbabwe will continue to:
 - evaluate national macro-economic and agricultural development plans and policies in terms of their environmental impacts on sustainable agriculture;
 - ensure that national physical development and planning policies realistically address the need to reduce over-dependence on the exploitation of natural resources for farming and support of rural household livelihoods.

Guiding Principle 36

Urban agriculture, practiced on public land, is a legitimate land use activity that contributes to sustaining the livelihoods of urban inhabitants, but needs to be practiced in a sustainable manner.

Strategic Directions

- The Government of Zimbabwe will:
 - develop and publish guidelines on urban agriculture to assist local authorities to plan ways to integrate and coordinate urban agriculture with the aim of minimising its environmental impacts;

- establish extension programmes to promote sustainable urban agriculture.

Guiding Principle 37

Producers and consumers need to be fully informed on the state of the environment, appropriate land-use practices and performance required to meet environmental objectives in agriculture.

Strategic Directions

- The Government of Zimbabwe will:
 - ensure that environmental education on agriculture and the environment is integrated in informal, non-formal and formal education;
 - establish a national campaign to highlight environmental problems in agriculture, promote the concept of sustainable agriculture, and encourage the adoption of environmental ethics by both farmers and consumers;
 - encourage the formation of strong farmer organisations able to promote sustainable agriculture and agro-processing at the grassroots level.

6.2.3 Forestry

Preamble

The forestry industry is an important component of the country's economy. It is dominated by the plantation-based timber industry with a smaller indigenous hardwood timber industry. The natural woodlands also support a significant non-wood forest products industry especially in rural areas. Woodlands and forests play a significant environmental role in the protection of soils and catchment areas.

Major environmental impacts from forest management and utilisation include inappropriate harvesting and extraction techniques; poor planning and designing of extraction roads and tracks; use of herbicides, pesticides and of toxic chemicals for pest and animal control; poor waste management; soil and water pollution from equipment oils and fuels; and poor post harvest management of slush and branch wood that causes hot fire. Each year more than a million hectares of forests experience hot dry-season fires that are destructive to woody vegetation. Whereas the large plantation companies have adopted self-regulation mechanisms by implementing sustainable forest management principles under internationally recognised third-party certification schemes, this practice has yet to be adopted by small-holder growers.

Guiding Principle 38

Continued development of the forestry sector should balance economic growth with the conservation of biodiversity and the maintenance of stability and resilience of forest ecosystems.

Strategic Directions

- The Government of Zimbabwe, in consultation with the forestry industry, will:
 - ensure that forestry development plans are integrated within overall land-use plans;
 - develop specific guidelines for the conversion of catchment or watershed protection forests to other land uses and for sustainable management of all types of forests;
 - ensure that environmental impact assessments are conducted for all major forestry developments;
 - promote and encourage the development and use of self-regulatory industrial standards (e.g. environmental certification) in the forestry sector;
 - provide incentives for the promotion of sustainable forest management;
 - support the development of environmentally sustainable small-scale commercial forest industries, including out-grower schemes, furniture manufacturing and wood carving;
 - ensure strict control of invasive species encroaching from plantations into natural forests, cultural heritage sites, protected biodiversity zones and other lands where they are not desirable;
 - promote environmentally responsible methods for waste management, application of herbicides and pesticides and disposal of lubricants arising from forestry industries activities to minimise their negative impacts on the environment;
 - encourage active public participation in, and contribution to, setting priorities and choosing the most practical measures for resolving environmental problems in forestry.

6.2.4 Industry

Preamble

Industry is a key contributor to economic development in Zimbabwe. Although its expansion is critical, the resulting activities have a number of adverse impacts on the environment. These include the consumption of both renewable and non-renewable resources; and the production of emissions, effluents and solid wastes that reduce environmental quality and lower the productive,

assimilative and regulatory capacities of the environment. While these adverse impacts can be regulated to some extent by setting minimum environmental standards, the emphasis needs to shift from regulation and enforcement to self-regulation and use of market-based economic instruments.

Guiding Principle 39

Any industry or organisation that causes pollution or environmental degradation shall meet the cost of remedying such pollution or environmental degradation and any resultant adverse health effects, as well as the cost of preventing, controlling or minimising further pollution, environmental damage or adverse health effects.

Strategic Directions

- The Government of Zimbabwe, in consultation with stakeholders in industry, will continue to:
 - develop local environmental standards, including specified permissible pollution levels for emissions into water, air and land, based on international standards but taking into account Zimbabwe's sustainable development needs;
 - develop and review appropriate regulations to control pollution and manage waste disposal into the environment;
 - issue licenses for disposal of effluents into the environment within certain permissible limits, with failure to comply resulting in withdrawal of licence;
 - strengthen institutions to monitor the enforcement of standards and ensure that all waste is treated to an acceptable standard before it is emitted into the environment;
 - enforce regulations and impose stiff penalties for non-compliance;
 - charge levies/taxes, where necessary, to tilt pollution burdens against polluters;
 - require industries and firms that cause pollution or environmental degradation to pay the costs of mitigating these impacts;
 - seek a balance between government regulation and enforcement, and incentives for and self-regulation by industry, so as to minimise the environmental impacts of industrial activity;
 - aim to reduce the social costs of pollution by requiring the companies responsible to internalise the costs involved;
 - introduce measures to encourage companies to adopt the best practicable means of limiting emissions, effluents and solid waste production.

Guiding Principle 40

Industrial activities need to be environmentally sustainable so that both present and future generations can continue to benefit economically and socially.

Strategic Directions

- The Government of Zimbabwe, in consultation with stakeholders in industry, will:
 - put in place mechanisms for the developing and implementing integrated waste management plans within industry;
 - require environmental impact assessments for all industrial projects;
 - encourage industry to adopt comprehensive environmental performance norms and standards, management and reporting practices, and programmes to promote and improve best practice;
 - promote the establishment of voluntary environmental management initiatives, including the adoption of environmental management systems linked to ISO 14000 or other internationally-recognised systems of certification;
 - provide economic instruments or incentives in the form of tax and duty rebates for companies acquiring cleaner production technologies, and encourage the financial sector to help finance such initiatives;
 - promote research into and development of environmentally-sound production processes and technologies;
 - draw up plans for the management of hazardous and toxic wastes that adhere to international conventions;
 - build capacity and promote awareness and training in the public services on the correct handling and reporting of spills of hazardous chemical substances on public roads and in catchments.

Guiding Principle 41

Better understanding, skills and capacity of interested-and-affected parties results in more equitable and effective participation in environmental governance.

Strategic Directions

- The Government of Zimbabwe will:
 - continue to promote dialogue between government, industry and other interested and affected parties on environmental issues;
 - ensure that the people of Zimbabwe are provided with environmental information

regarding the contents and disposal of industrial products;

- put in place mechanisms to ensure that industries publicise their environmental performance.

6.2.5 Energy

Preamble

Energy is indispensable to development. The main sources of energy in Zimbabwe are electricity from coal-fired power stations, hydroelectricity, petroleum products (including paraffin), propane gas, solar energy, and wood fuel. Wind power is largely undeveloped. While energy production is essential, there are some major negative environmental impacts that need to be avoided or mitigated. Dams cause the loss of riverine habitat, downstream impacts and release of methane from flooded vegetation. Coal-fired power stations release greenhouse gases to the atmosphere and gases that form acid rain. These and other emissions from fossil fuels may initiate climate change. Other concerns include deforestation due to widespread dependence on wood fuel and dumping of chemicals such as used oil in water and soil. An integrated energy policy is needed to address these impacts and balance them against the requirement for energy production and use.

Guiding Principle 42

The people of Zimbabwe have a right to safe and affordable energy produced at minimum environmental cost.

Strategic Directions

- The Government of Zimbabwe, working with stakeholders in the energy sector, will:
 - work towards ensuring equitable access to energy among all sectors of the population;
 - promote the concept of demand management in seeking to balance the demand for energy with its supply;
 - adopt measures to increase the efficiency of energy use and promote energy conservation;
 - promote economic policies that encourage efficient use of energy and discourage over-exploitation of non-renewable energy sources;
 - promote, through the introduction of appropriate incentives, investment in and use of renewable sources of energy;
 - encourage energy efficiency accounting and practices;
 - explore the options for adopting an energy pricing policy that will promote demand for and

supply of energy from environmentally-friendly sources;

- promote reforestation as a means of increasing carbon sequestration in the biosphere;
- promote the planting of woodlots as a source of wood fuel so as to reduce deforestation;
- encourage greater extraction and use of methane as a cleaner source of energy;
- observe and support international conventions and protocols designed to promote the use of more energy-efficient and environmentally-friendly energy sources.

6.2.6 Natural Resources Management

Preamble

Natural Resources Management is an important sector of Zimbabwe's economy as it earns foreign currency. Many international tourists come to experience the country's natural attractions therefore the quality of the environment is a major factor influencing the potential of the tourist market in Zimbabwe. Since Natural Resources Management is not always benign, concerns have been expressed about the adverse impacts of Natural Resources Management on the environment. These include excessive use of natural resources and unsightly infrastructure developments. Careful planning of tourist destinations and facilities is needed to secure the positive aspects of Natural Resources Management and manage the potentially negative ones. The costs, benefits and feasibility of different forms of Natural Resources Management development need to be regularly assessed.

Guiding Principle 43

Natural Resources Management in Zimbabwe is founded on the natural and cultural attractions of the country and so needs to be developed in environmentally sustainable and socially acceptable ways.

Strategic Directions

- The Government of Zimbabwe, in consultation with stakeholders in the Natural Resources Management industry, will:
 - promote the formulation of an environmentally friendly and sustainable strategy for Natural Resources Management development in Zimbabwe that takes account of the wide range of tourists and the need for a diversity of tourist opportunities;
 - regularly assess the environmental cost, benefits and feasibility of different kinds of Natural Resources Management development;
 - promote domestic Natural Resources Management with the aim of motivating

Zimbabweans to conserve their natural environment;

- actively promote Natural Resources Management as a means of fostering greater understanding among others of Zimbabwe's history, culture and natural attractions;
- seek to mitigate any adverse impacts of Natural Resources Management on the local environment, values, culture and natural heritage;
- promote joint ventures between communities and both public and private-sector enterprises to maximise the sustainable economic benefits of Natural Resources Management;
- encourage private-sector investment and developments in the Natural Resources Management industry as a means of conserving natural and cultural attractions;
- work with neighbouring countries to formulate environmentally sustainable and integrated regional strategies for Natural Resources Management development.

6.2.7 Transport and communication

Preamble

The transport and communications sector adds considerable value to the economic activities in Zimbabwe, both nationally and locally. However there are some negative environmental impacts from this sector. Apart from the land occupied by the transport and communication network and modified to ensure that it functions efficiently and safely, major environmental impacts include the noise of the vehicles that use the road and rail network; their emissions of exhaust gases, particulates and heavy metals; dust, especially from vehicles travelling on unpaved roads; and the siltation of water courses arising from erosion associated with poorly maintained and unpaved roads. Other sources of pollution from this sector include contamination of soil and both surface and ground water from wastes such as used oil, lead from used car batteries, and nickel and cadmium from cell-phone batteries; discarded low-level radioactive material; as well as discarded tyres and vehicle bodies.

A balance needs to be struck between the economic and social gains and negative impacts from the transport and communication sector. For sustainable development, infrastructure developments in this sector require incorporation into land-use plans and integrated assessment of their impacts.

Guiding Principle 44

The expansion of transport and communications networks, while essential for economic development,

should be done in ways that minimise adverse environmental impacts such as pollution or environmental degradation.

Strategic Directions

- The Government of Zimbabwe, in consultation with stakeholders in the transport sector, will:
 - encourage integrated development of the transport and communications infrastructure;
 - prescribe acceptable standards for infrastructure developments that put people first and produce the appropriate balance between sustainable development and negative impacts to the environment;
 - approve only those infrastructure developments that have been subject to environmental impact assessment and, where relevant, an environmental management plan designed to avoid, reduce or mitigate adverse effects on the environment;
 - expand the road surfacing programme, and ensure the maintenance of existing road and rail networks, to reduce dust and wear-and-tear on vehicles;
 - encourage expansion of the public transport network, to provide an alternative to the use of private vehicles for commuting to work in urban areas, both to reduce pollution and to conserve energy;
 - introduce and enforce emission standards for vehicles, based on international norms but taking into account Zimbabwe's sustainable development needs, as one means of controlling air pollution;
 - improve monitoring of emissions, including random inspections of emissions from all kinds of transport vehicles, as a basis for designing and implementing more efficient abatement and mitigation options;
 - encourage the use of emission control technologies in motor vehicles, such as catalytic converters;
 - provide incentives to encourage the use of cleaner fuels such as unleaded petrol and low sulphur content diesel;
 - develop an integrated waste management strategy to address the issue of the disposal of used oils, batteries, tyres, and derelict vehicles;
 - use the carbon tax to mitigate pollution problems arising from the transport and communications sector;
 - encourage polluters in the transport sector to mitigate their impacts, including through investments in re-forestation to offset the release of carbon from fossil fuels.

6.2.8 Wild life and fisheries

Preamble

Wild life and fisheries are renewable economic resources that can sustain continuous off take if harvested in sustainable ways. Wild life production can be a form of sustainable land use, especially in semi-arid environments. For almost three decades, Zimbabwe has been a world leader in the sustained commercial use of wild life and other biological resources, taking advantage of the diversity and size of its wild life populations to build a substantial safari hunting and eco-Natural Resources Management industry. Innovative programmes such as the Communal Areas Management Programme for Indigenous Resources (CAMPFIRE) and the conservancies programme have been developed and widely emulated elsewhere within southern Africa. The wild life and fishing industries have both positive and negative effects on the environment and natural resources, though on balance the positive effects probably predominate. Nevertheless, issues of equity of involvement in and benefit from the wild life and fishing industries, and on there being adequate technical capacity to manage these resources, give some cause for concern about their long-term viability.

Guiding Principle 45

The use of natural resources produces a market value that reflects their scarcity and unique qualities, thereby creating incentives to conserve these resources and use them sustainably.

Strategic Directions

- The Government of Zimbabwe, in partnership with the wild life industry, will:
 - recognise the use of wild life and wild land as legitimate forms of land use;
 - put into place mechanisms that will ensure equitable access for all Zimbabweans to the resources and opportunities to develop the potential of the wild life industry, without undermining its obligation to the people of Zimbabwe and the world generally to conserve the country's biological heritage;
 - continue to support the growth and expansion of the wild life and fishing industries strictly within sustainable limits;
 - acknowledge the right of landowners to ownership of wild life that is the result of direct investment;
 - promote the need for greater equity in the sharing of opportunities to participate in, and benefit from, development of wild life and fishing industries;

- recognise and encourage the use of the opportunity for wild life to contribute to alleviating rural poverty, particularly in times of drought;
- continue to encourage and support research that enhances the wild life and fishing industries.

6.2.9 Retail

Preamble

Growth in commercial activity and changes in the kinds of value-adding processes such as more elaborate packaging within the retail sector in Zimbabwe; have lead to increasingly negative environmental impacts in recent years. The retail sector is responsible for a growing amount of solid waste that needs to be collected and disposed of in sanitary landfills. These impacts are likely to intensify as Zimbabwe becomes more of a consumer society. They can however be countered through more recycling and re-use of discarded materials, environmentally-responsive labelling, the use of more biodegradable wrapping, and public education campaigns urging people not to litter but to re-use and recycle as much material as possible.

Guiding Principle 46

Re-use, Recover, Reduce and Retrieve energy through the controlled and proper treatment of waste, all before landfill, is essential for improved waste management.

Strategic Directions

- The Government of Zimbabwe, in partnership with stakeholders in the retail trade, will:
 - develop integrated waste management strategies based on the principles of Re-use, Recover (Recycle), Reduce and Retrieve Energy;
 - encourage industry and others to undertake Life-Cycle Assessment ('cradle-to-grave' assessment) as a means of assessing the environmental impacts of a product or service throughout its life cycle, so as to design ways to reduce its overall adverse environmental impacts;
 - introduce fines for indiscriminate disposal of litter by retail operators and individuals.

Guiding Principle 47

Environmental certification and the eco-labelling of retail products inform the public about the environmental performance of products.

Strategic Directions

- The Government of Zimbabwe, in consultation with other stakeholders, will:
 - create incentives to encourage environmental certification;
 - promote the development of skills for eco-labelling.

6.2.10 ServicesPreamble

The services sector has been one of the fastest growing economic sectors in Zimbabwe since independence. It is a major consumer of both renewable and non-renewable energy, paper and other natural resources. The expansion of the sector has had a direct but under-estimated impact on the environment. In addition to the use of energy and natural resources, it contributes to pollution through production of solid waste and effluents. Positive developments in this sector would be reductions in and more efficient use of resources, and greater recycling of wastes, particularly paper. The sector can also contribute to environmental-responsive development by providing essential services for environmental certification.

Guiding Principle 48

Efficient use of natural resources, including recycling and re-use, where appropriate, is cost-effective.

Strategic Directions

- The Government of Zimbabwe, working with stakeholders in the services sector, will:
 - encourage the development of an integrated environmental plan within the services sector;
 - encourage more efficient use of natural resources, especially energy, by charging the real cost of supply;
 - promote measures to reduce waste production and put in place incentives to encourage the recycling of waste;
 - promote and encourage the financial sector to fund cleaner production and other environmentally-responsible initiatives.

7. ENVIRONMENTAL MANAGEMENT

Management of the environment, in particular the impacts of development, is needed to maintain the integrity of environmental systems and their capacity to continue to produce certain goods and services. This requires both financial and technical resources, and the organisational and institutional capacity to use these in appropriate and cost-effective ways. Three main approaches can be used

to do this, each with its associated policy instruments. These include legislation, regulations and enforcement; direct and indirect interventions, either through using or creating markets; and the application of incentives, to engage the public and encourage self regulation, more efficient resource use and a willingness to internalise environmental and social costs. In their combined effect these instruments should be anticipatory and preventive, rather than solely reactive and responsive. Voluntary compliance should be considered as a first resort.

7.1. Mechanisms for Environmental Management**7.1.1 Environmental legislation**Preamble

Environmental law is an essential component of effective environmental management. Much of the emphasis in the current legal framework is through economic instruments such as user-pay schemes, environmental funds and the polluter-pays principle. Positive incentives, which could include tax rebates and other measures, can also be used to encourage efficient management of resources. Assessments of the environmental, economic, social and equity-related impacts of development are an integral part of this process, allowing on-site and off-site impacts, over different time frames, to be evaluated and appropriate measures taken early on to avoid, mitigate or offset the adverse impacts. To be effective, laws must be understood and appreciated by people to whom they are aimed. Therefore other instruments like public education and awareness are essential and complementary to legislative instruments.

Guiding Principle 49

Environmental law is an essential component of effective environmental management and improvement of the quality of life that sets demands, imposes duties and creates obligations on society for sustainable use, management and protection of the environment.

Strategic Directions

- The Government of Zimbabwe, in consultation with stakeholders will:
 - promote and guarantee people's environmental rights, through entrenching the principles of environmental protection and people's rights to information about their environment in the constitution of Zimbabwe;
 - continue to strengthen environmental laws and standards, where necessary;
 - promote both the polluter-pays and precautionary principles;

- develop environmental standards as a priority for use as benchmarks in assessing environmental impacts;
- continue to establish and maintain effective services and facilities to support environmental management and monitoring;
- put in place mechanisms to ensure that government agencies with responsibilities for overseeing and promoting environmental management have the necessary information and adequate resources to allow them to carry out their mandates including environmental monitoring;
- decentralise authority for environmental management to the lowest appropriate level, and strengthen the capacity of local authorities to fulfil their obligations in this regard;
- develop and strengthen links between local and national institutions in relation to policy formulation;
- raise awareness and harmonise the enforcement of laws and policies related to environmental management.

7.1.2 National and local environmental management plans

Preamble

Zimbabwe has initiated the framework for developing a National Environmental Plan (NEP), Local Environmental Actions Plans (LEAPs) and Environmental Management Plans (EMPs) in accordance with its commitments made under the Rio Convention on Environment and Development (Agenda 21). The purpose of national level environmental planning is to promote and facilitate the consolidation and coordination of strategies, plans and activities developed at different levels (provincial, district and community) and in different sectors across the country. Once adopted the NEP binds everyone including the State. The resulting national environmental strategy and action plan is time-bound and most importantly its development is an ongoing process that requires regular revision to reflect current environmental issues. A key component of the NEP process is access to environmental information, both to establish the state of the environment and to monitor the effectiveness of management responses.

At local level, local authorities (including Rural District Councils) (RDCs) have to prepare and implement LEAPs for the areas under their jurisdiction. They have the legal mandate to enact by-laws and promote environmental conservation and management. The process of environmental planning and management at local level is also on-going and takes into account the participation of

local communities at local level such as village, ward and district level. Additionally a 'specific authority' which can be any government agency, person or class of persons that exercises functions in operations which affect the environment is obliged to prepare an EMP for the management and protection of the environment.

There is need for these national and local environmental management tools to be adaptive to accommodate the ever-changing demographic, social economic and environmental realities including increasing poverty, land degradation and possible climate change.

Guiding Principle 50

Sustainable development requires integrated environmental management that takes full account of people's development needs, the capacity of the environment to meet those needs and accommodate the consequences, and how these might be affected by development.

Strategic Directions

- The Government of Zimbabwe, working with all sectors of society, will:
 - put in place the necessary mechanisms for developing, implementing, monitoring, regularly reviewing, and updating national and local-level environmental management and action plans;
 - promote integrated environmental planning and management by developing and strengthening collaboration among national and local-level institutions;
 - prioritise environmental concerns and issues, taking into account public perceptions and concerns;
 - promote the use of participatory rural appraisal to assess local conditions, needs and attitudes of communities to their natural resources;
 - make more use of traditional structures for mobilising the public on environmental issues;
 - encourage greater public participation by promoting partnerships between the public and private sectors, and by broadening the scope of environmental education, training and awareness;
 - strengthen the capacity and expand the experience of NGOs and community-based organisations in environmental planning and management.

Guiding Principle 51

Effective environmental planning and management depends on having relevant, reliable and up-to-date information on the environment.

Strategic Directions

- The Government of Zimbabwe, in collaboration with stakeholders, will:
 - continue to develop and maintain an Environmental Information System, including meta-data, to provide an inventory of information for use in environmental planning, management and protection;
 - improve the collection, storage, retrieval and dissemination of information about the status and trends of major environmental variables;
 - improve coordination of and encourage cooperation among the various national agencies and organizations holding environmental data;
 - ensure that information on the state and prospects of the environment, including emerging issues and concerns, is generated, appropriately packaged for different user and interest groups, and disseminated in a timely manner by relevant institutions.

7.1.3 Environmental impact assessment**Preamble**

Environmental Impact Assessment (EIA) is both a process and tool for project planning and decision-making. Its purpose is to ensure that during development planning, possible impacts on biophysical, economic and socio-cultural elements of the environment are taken into account. The aim is to identify likely impacts, estimate their severity, indicate which impacts may be significant and what opportunities there might be to avoid or minimise negative impacts and enhance potential benefits. Developments that are subject to an EIA need to be aligned with the national environmental plan and local environmental action plans (LEAPs). In some cases, broader, sector-wide, strategic impact assessments of developments need to be undertaken to assess their likely cumulative impacts, and the extent to which they might interact to amplify particular impacts.

Guiding Principle 52

Environmental impact assessment is aimed at enhancing the sustainability of a development, and as such, is considered an integral part of the project planning process.

Strategic Directions

- The Government of Zimbabwe will:
 - promote and undertake strategic environment assessments of developments within the development sectors, to facilitate integrated environmental management and planning and minimise adverse systemic and cumulative impacts of development;
 - ensure that all developers are aware of the need to undertake environmental impact assessment as early in the project cycle as possible;
 - enforce environmental impact assessment and management requirements;
 - ensure the adequacy of statutory requirements and regulatory controls and enforcement in encouraging environmental impact assessments and audits, pollution control measures, waste minimisation and management.

Guiding Principle 53

Effective management of the environment requires adequate human skills and physical resources across a wide range of disciplines, especially in being able to identify, assess, evaluate and respond to the possible impacts of development on environmental structure and functioning.

Strategic Directions

- The Government of Zimbabwe will:
 - seek to build human and institutional capacity in environmental impact assessment, review and monitoring;
 - establish a system for accrediting consultants undertaking environmental impact assessments;
 - work to retain competent EIA specialists within the relevant institutions who can review prospectuses effectively, draw up appropriate terms of reference for EIA studies, and review EIA reports.

Guiding Principle 54

The human skills and physical resources required for effective environmental management need the support of appropriate institutional arrangements, particularly those that function at the same scale as the problem needing to be managed.

Strategic Directions

- The Government of Zimbabwe will:
 - decentralise some aspects of the administration of the EIA process to provincial and district levels, where practical, so as to facilitate public participation;

- ensure that all agencies with the mandate to grant development permits understand and are committed to implementing and enforcing the legal requirements for EIAs;
- ensure that all government agencies are informed about what recommendations have been made during the environmental impact assessment process and made the condition of the development certificate.

Guiding Principle 55

People have a right to be consulted and heard on developments that may affect their livelihoods, property and surroundings, and quality of life.

Strategic Direction

- The Government of Zimbabwe will:
 - promote and encourage the participation of interested and affected parties, including communities in the EIA processes;
 - improve public access to information on EIAs to allow greater confidence to be placed in the data and findings of environmental impact assessments;
 - establish a mechanism for periodically informing all concerned parties about the results of monitoring EIAs including whatever remedial measures may be recommended.

7.1.4 Economic instruments

Preamble

Most environmental resources and services are undervalued either because they are not traded in the market place or they are treated as common property. Increasingly, there are moves to create markets for environmental goods and services to help achieve the desired, cost-effective level of environmental protection. Using markets involves, among others, reductions in subsidies that produce adverse environmental outcomes; environmental taxes and charges; user charges; deposit-refund schemes; certification; and selective procurement. Markets can also be created through the introduction of tradable permits and rights, international offset schemes, such as that for carbon, and by expanding property rights. Few such instruments have been developed and applied in Zimbabwe. A balance is needed between regulation and the use of suitable direct and indirect market interventions. Incentives can also be used to engage the public and encourage self-regulation and more efficient use of resources, and to internalise environmental and social costs of economic activities. The private sector can also contribute to effective environmental management by adopting voluntary codes, setting up their own

environmental management systems, and using Best Practicable Management procedures.

Guiding Principle 56

Economic instruments can play a critical role in encouraging efficient and environmentally responsible management of natural resources and influence users to act in ways consistent with sound economic and environmental values.

Strategic Directions

- The Government of Zimbabwe, together with stakeholders will:
 - develop mechanisms for encouraging companies to meet certification requirements;
 - use selective procurement of goods and services from companies practicing responsible environmental management;
 - where appropriate, encourage payments for environmental services by consumers to those individuals and communities whose legitimate land-use practices would otherwise diminish the provision of the services, so as to secure future supplies of the services;
 - promote use of certified or eco-labelled products particularly from small-scale producers as a means of supporting sustainable development.

Guiding Principle 57

Fiscal, economic or social incentives can promote the protection and management of the environment and the conservation and sustainable use of natural resources.

Strategic Direction

- The Government of Zimbabwe, together with the private sector, will:
 - identify ways and means of encouraging self-regulation by industries in preference to the use of government statutes and enforcement;
 - create an incentive structure for effective environmental management in the private sector;
 - ensure equity and avoid discriminating against small- and medium- scale producers/enterprises in granting incentives;
 - encourage assessments and publicity of the value of environmental goods and services received by people.

7.1.5 Engaging the public

Preamble

Information is recognised as a prerequisite to effective national and international environmental management, protection and cooperation. It enables people to participate more effectively in national decision-making processes, and can help in identifying and implementing broadly acceptable prevention and mitigation measures. Being better informed can also influence people's attitudes and behaviour. The right of access to information is part of the broader 'environmental rights' philosophy, in terms of which affected individuals should be able to participate more fully in environmental impact assessments and, if necessary, institute legal action against polluters who diminish the quality of their environment. The right is also embedded in the principle of transparency and environmental accountability. The capacity of communities to address environmental issues and develop the values, attitudes, skills and behaviour consistent with sustainable environmental management therefore requires more public education on the environment through public-awareness campaigns and sharing knowledge and experiences.

Guiding Principle 58

To improve public understanding, support for, and participation in environmental management and governance, people must have adequate information about the environment, intended developments, and the likely consequences of those developments.

Strategic Directions

- The Government of Zimbabwe will:
 - empower civil society, including the poor and marginalised groups, through greater consultation and active involvement in all decision making processes related to the environment, including policy formulation;
 - promote programmes to train, raise awareness, and build capacity on environmental issues at all levels to facilitate effective public participation in environmental management and governance;
 - establish and maintain efficient and effective environmental information systems that respond to user needs and facilitate informed decision-making and public participation in improved environmental management;
 - ensure that monitoring and evaluation information on the effectiveness of policies and programmes aimed at responding to environmental challenges is made available in an accurate and timely manner to different user groups;

- ensure that everyone has access to information to enable them to protect the environment and participate effectively in environmental governance.

7.2. Capacity

Preamble

The management and protection of environmental resources is the responsibility of the resource owners and resource users at different levels. Therefore environmental resources management capacity must be developed at national, provincial, district, local, community and individual levels. Capacity however, goes beyond simply educating or raising awareness, but also includes the issues of empowering communities and individuals to act. At all these levels there is need to develop capacity to assess, monitor, control, regulate, manage and develop environmental resources under their jurisdiction to ensure protection of the environment and sustainable use of the country's natural resources for the benefit of both present and future generations.

Due to the multi-sectoral and multi-disciplinary nature of environmental management, it is also important that the capacity for efficient and effective coordination and fostering of cooperation among relevant government institutions, local authorities, the private sector, civic society and local communities be developed and strengthened. Roles and functions must be properly articulated and aligned to avoid overlaps, duplication and conflicts.

Guiding Principle 59

Effective environmental conservation and management depends on efficient, well-motivated and coordinated institutions at community, district, provincial and national levels.

Strategic Directions

- The Government of Zimbabwe, in partnership with other key stakeholders, will:
 - establish and maintain appropriate institutions under the Ministry responsible for environment, enabling them to provide technical support, policy analysis, implement and facilitate co-ordination of national environmental plans and programmes;
 - strengthen inter-sectoral coordination and cooperation at national and local levels especially in the planning, implementation and monitoring of development programmes;
 - improve capacity within key national institutions, including local authorities and local

community institutions, to undertake and facilitate conservation, management and sustainable use of the environment;

- ensure that adequate human, financial and other resources are made available to all government institutions, civic society andlocal authorities responsible for promoting, planning and implementing environmental management, including systematic monitoring of the state of the environment;
- maintain adequate capacity to identify and evaluate emerging environmental issues and to provide the necessary information, advice and guidance on appropriate responses for improved environmental-management;
- raise public awareness and understanding of the essential linkages between development and the environment to promote effective individual and community participation in environmental management and governance;
- encourage all interested-and-affected parties to develop the necessary understanding, skills and capacity for them to participate effectively in environmental decision-making;
- strengthen cooperation among the public and private sectors, and civil society, to share information and use the best available scientific and local knowledge for environmental management and protection;
- support environmental research, and improve the monitoring and testing capabilities and facilities of national institutions to ensure effective and consistent monitoring of environmental quality, resource use, and environmental conditions and trends in the country.

7.3. Multilateral Environmental Agreements

Preamble

Zimbabwe is a party to various multilateral environmental agreements. Such agreements form the basis for the rights and obligations of states in the field of environmental protection. These legal frameworks seek to balance the sovereign right of countries to use their natural resources to their advantage while accepting responsibility not to cause harm beyond their national boundaries. Each agreement entails certain commitments, not least of which is the obligation to put in place and promote domestic policies and actions to give effect to the agreement. Meeting these commitments depends on acceptance of the provisions by interested and affected parties within the country; clearly defined roles and responsibilities among stakeholders; demonstrable

benefits nationally that outweigh the costs; and having adequate resources available for implementation.

Guiding Principle 60

Commitments made by signing multilateral agreements on the environment must be reflected in domestic legislation and practise.

Strategic Directions

■ The Government of Zimbabwe will:

- promote, participate in, and implement global and regional environmental agreements;
- establish a process for public consultation prior to and following international negotiations and agreements, to canvass stakeholder interests and concerns;
- comply with and implement those international agreements to which Zimbabwe is a signatory by incorporating the commitments made under these agreements into national legislation;
- develop appropriate national strategies and action plans to give effect to these commitments;
- establish clear roles and responsibilities for, and promote the coordination of the activities of those national bodies charged with implementing action plans;
- ensure that there is adequate capacity and resources to meet the responsibilities of implementing international agreements;
- raise public awareness on the issues underlying and obligations arising from international agreements.

8. ORGANISATIONAL AND INSTITUTIONAL FRAMEWORK

Environmental issues and concerns cut across all sectors of society, affecting individuals, organisations and institutions at every level. Most environmental impacts of human activities arise locally but scale up to broader levels both cumulatively, where the same activity occurs at many different places so that there is an aggregate effect, and systemically, where a few key activities change how an environmental system works. Successful environmental management in Zimbabwe therefore will require integrated policies and programmes across the various economic and social sectors, and a range of complementary, coordinated and cooperative measures at different levels. Most importantly, many of the actions needed to turn around adverse environmental impacts will have to take place locally in many places and communities. This will require local leadership, ownership and responsibility for such actions, together

with sustainable and resilient community institutions, supported by enabling policies and programmes, resources, technical assistance and capacity building on the part of central government.

Figure 2 presents an institutional framework built on existing institutional arrangements, including those established under the Environmental Management Act [Chapter 20:27], and how best they can be aligned so as to complement each other to achieve effective environmental management and protection. This framework should give local authorities, including village assemblies, ward assemblies, rural district councils and urban councils, more responsibility to plan, develop, manage and protect the natural resources under their jurisdiction. The underlying principle is that the Ministry responsible for the environment and its implementing institutions, will set up the basic framework and policies; provide leadership and support; and coordinate the different elements that will require, encourage and support the responses needed from lead agencies, local authorities, other non-statutory community based and non-governmental organisations and resource owners, to ensure that the national environmental objectives are met.

The Minister responsible for the environment will report to the Parliamentary Portfolio Committee on Mines, Energy, Environment and Natural Resources Management on the steps taken to implement this policy and assess its effectiveness. Responsibility for monitoring and evaluating the policy will rest with the Ministry in charge of the environment, working in close collaboration with the department for Policy Implementation in the Office of the President. The policy

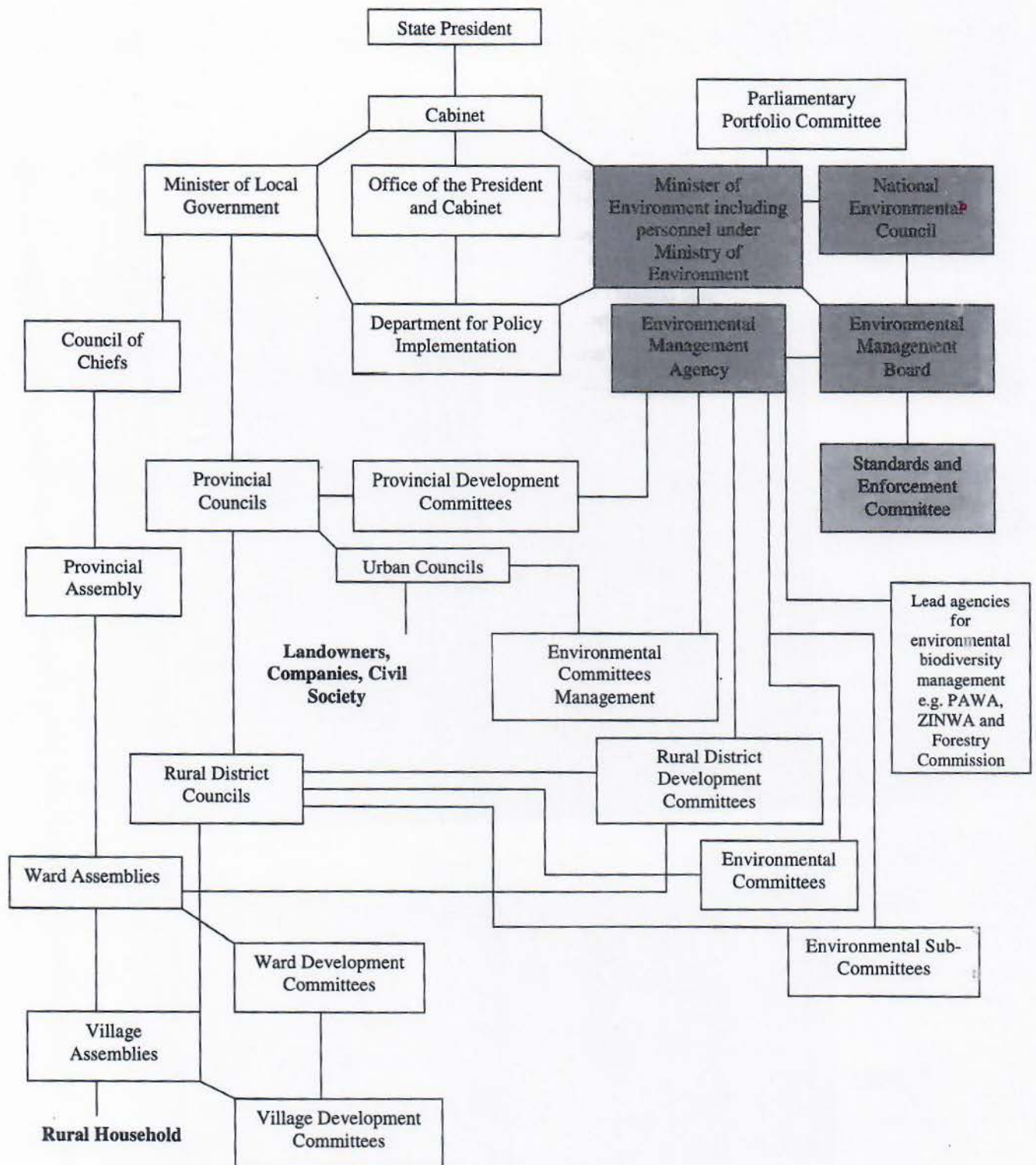
overall will be reviewed at least once every 10 years and a report on the state of the environment will be produced every five years.

9. FINANCING MECHANISMS

Significant additional resources will be required to finance the provisions of this policy. In terms of the Environmental Management Act [Chapter 20:27] the Environmental Management Agency will be funded largely from an annual allocation made by Parliament together with any loans, donations and grants made to the Agency; any fees or charges obtained for services rendered by the Agency, proceeds of the carbon tax and any other moneys that may accrue to the Agency.

The Act also makes provision for the establishment of an Environmental Fund to be made up of environmental levies, any moneys appropriated for it by Parliament, donations, loans and other financial assistance obtained by the fund and any moneys that may be vested in or accrue to the Fund. The purposes for which these funds can be used are laid down in the Act and cover many of the provisions set out in this policy.

To reduce the burden on the exchequer, the Minister responsible for the environment, through the Environmental Management Agency, will work with the private sector and other organisations to develop a system of inducements and incentives designed to ensure greater self-regulation by the sector and more commitment of private funds to environmental management and protection.



10. GLOSSARY OF TERMS AND ABBREVIATIONS

Term or abbreviation	Definition
biodiversity or biological diversity	The variability among living organisms from all sources including terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part. This includes diversity within species (genetic diversity), between species (species diversity) and among ecosystems (ecosystem diversity).
biotechnology	Any technological application that uses biological systems, living organisms, or derivatives thereof, to make or modify products or processes for specific use.
ecosystem	A dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit.
genetic resources	Genetic material of actual or potential value.
greenhouse gas	Molecules in the Earth's atmosphere that absorb some of the thermal radiation emitted from the Earth's surface, and so heat up its atmosphere. Common greenhouse gases include carbon dioxide (CO ₂), methane (CH ₄) and chlorofluorocarbons (CFCs).
protected area	A geographically defined area that is designated or regulated and managed to achieve specific conservation objectives.
sustainable use	The use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations.
AIDS	Acquired Immuno-Deficiency Syndrome
CAMPFIRE	Communal Areas Management Programme for Indigenous Resources
CBD	Convention on Biological Diversity
CCAs	Community Conservation Areas
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan
GMOs	Genetically Modified Organisms
HIV	Human Immuno-deficiency Virus
LEAP	Local Environmental Action Plan
NEP	National Environmental Plan
NGOs	Non-Governmental Organisations
SADC	Southern Africa Development Community
TBNRM	Transboundary Natural Resource Management
PAWA	Parks and Wild Life Authority
ZINWA	Zimbabwe National Water Authority