SADC Environmental Legislation Handbook 2012

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SADC Environmental Legislation Handbook 2012

Chapters 8, 11, 13, 14 and 16 was funded by the United States Agency for International Development (USAID) under contract number EPP-I-00-03-00013-00 (Environmental Compliance and Management Support for Africa, "ENCAP"). The contents of these chapters are the responsibility of the authors and do not necessarily reflect the views of USAID or the United States Government.

Third Edition
ISBN 978-920227-01-2

Document title
SADC Environmental Legislation Handbook 2012

Published by
Development Bank of Southern Africa
Also available on www.dbsa.org and www.saiea.com websites

Funded by
Development Bank of Southern Africa
Southern African Institute for Environmental Assessment
United States Agency for International Development (Chapters 8, 11, 13, 14 & 16)

Keywords
EIA, guidelines, legislation, regulations, SADC

Referencing
When referencing this document, it should be cited as:
Walmsley, B & Patel, S, 2011. Handbook on environmental assessment legislation in the SADC region. 3rd edition. Pretoria: Development Bank of Southern Africa (DBSA) in collaboration with the Southern African Institute for Environmental Assessment (SAIEA).

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Acknowledgements

The authors would like to express their sincere gratitude to the following people for their valuable contributions to the third edition of this Handbook: Ambassador Roger Ballard-Tremeer (Angola), David Parry (Botswana), Dieudonné Bitondo (Democratic Republic of Congo), Margaret Sikwese (Malawi), and Peta-Jane Spong and Tagwie Paradzai (Zimbabwe).

The funding assistance from the United States Agency for International Development is gratefully acknowledged and the support from Mark Stoughton and Wes Fisher at Cadmus Group and Luke Kozumbo at IRG is most appreciated. Morgan Hauptfleisch and Alton Tsowaseb of the Southern African Institute for Environmental Assessment are thanked for their diligent research for this update.

We would like to thank the Development Planning Division (DPD), which provided the administrative support at the Development Bank of Southern Africa, and Gudrun Denker of the Southern African Institute for Environmental Assessment for administrative support.

This report was produced with the valued assistance of the DPD publications team, Marié Kirsten, Lyn Sumners and Rose Ngwenya, who oversaw the editing, typesetting and printing process. Thanks also goes to the DBSA print and publishing team.

Tundavala, Angola

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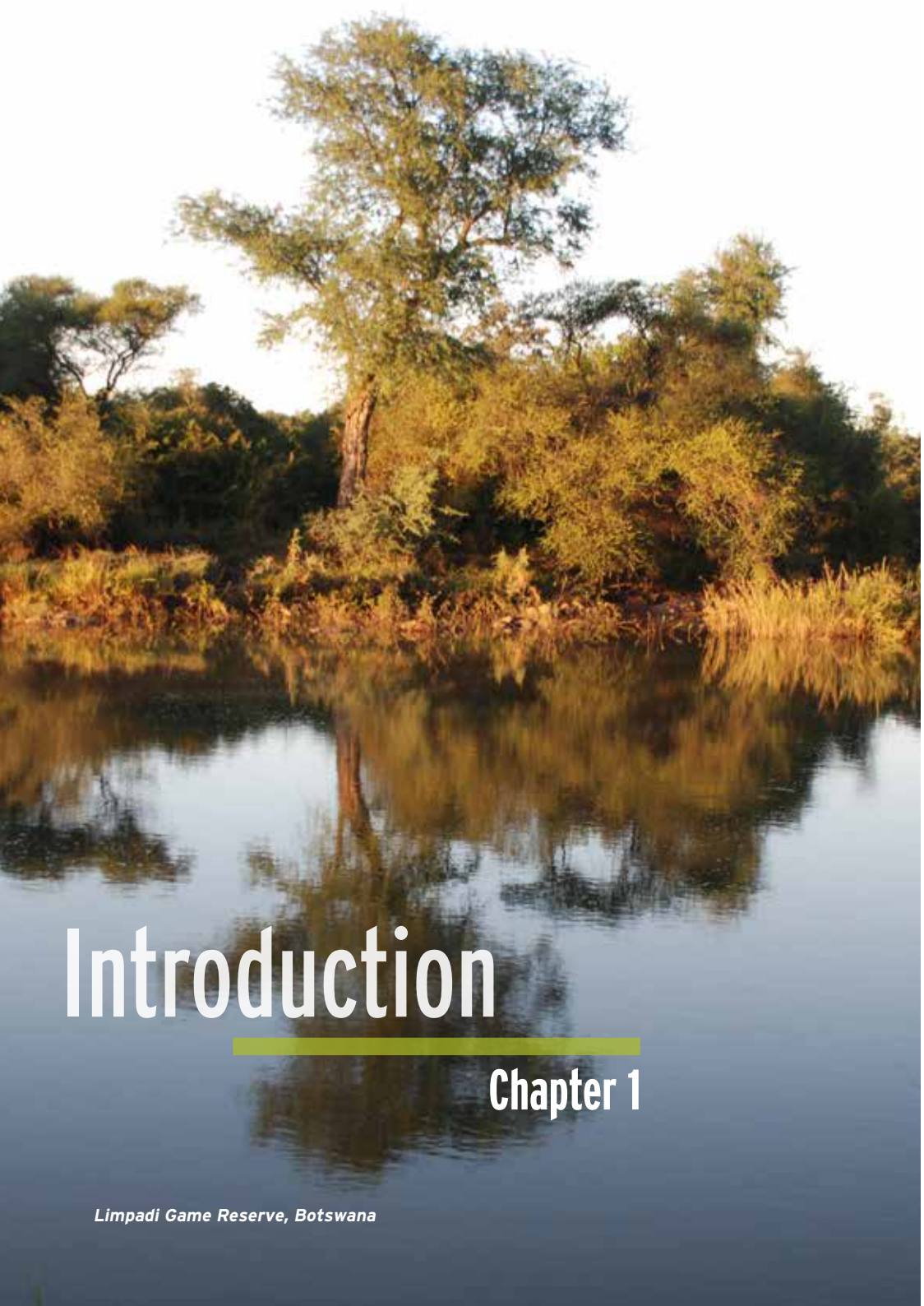
1 At the time of publication of the second edition of this Environmental Legislation Handbook, the Seychelles was not included due to membership status in the SADC forum.

This is an update of the second edition and therefore the Seychelles is not included. Should you require information on the environmental policy and legislation for the Seychelles please refer to www.env.gov.sc



Introduction

Chapter 1

Limpadi Game Reserve, Botswana

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Introduction

1.1 Background to the Handbook

The Policy and Strategy for Environment and Sustainable Development (1996) of the Southern African Development Community (SADC) calls for 'a breakaway from fragmented sectoral approaches to environmental management' and urges the region to pursue 'a single agenda and strategy' to achieve the consistent integration of environmental impact assessment (EIA) in decision-making.[1] Since then, great strides have been made in formalising EIA into the legal frameworks in SADC, with all SADC countries now having promulgated laws in this regard.

In 2007, the Southern African Institute for Environmental Assessment (SAIEA) and the Development Bank of Southern Africa (DBSA) published the first edition of the *Handbook on environmental assessment legislation in the SADC region*, funded by the DBSA. Although SADC currently has 14 member countries, the 2007 Handbook covered 15 countries – during its preparation, the Seychelles left SADC and Madagascar joined; both countries were included in the Handbook. However, subsequent editions included only the 14 SADC member states: Angola, Botswana, the Democratic Republic of Congo (DRC), Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe.

The original intention was to update the Handbook on a regular basis to keep pace with the rapidly changing and evolving legislation; therefore, the DBSA commissioned SAIEA to update the Handbook in 2009 (second edition) and again in 2011 (third edition). In order to ensure ease of access by all practitioners, the chapters of the book are available as downloadable pdf files. It is interesting to note that major changes in legislation have occurred in Angola, Botswana, the DRC, South Africa and Zambia since the second edition, and there has been a policy change in Zimbabwe.

While all efforts have been made to ensure that the legal frameworks and details of the required EIA procedures in each country were accurate as at the date of writing, the reader should check with the relevant authorities in each country as to whether the information is still correct. Contact details for the relevant EIA authorities are provided at the end of each country chapter.

This Handbook is intended for use by prospective developers, donor agencies, government authorities, non-governmental organisations and environmental assessment practitioners, or anyone who wants to find out about EIA legislation and the administrative arrangements for EIA in each SADC country. Each country chapter provides information on the following:

- The constitutional requirements for environmental protection;
- The institutional and administrative structures for EIA;
- The policy and legal framework for EIA, including information on the relevant policies, Acts, regulations, guidelines, penalties, fees and environmental standards, and whether environmental consultants need to be registered to practise in the country;
- The EIA procedural framework, including the steps to be followed through screening, scoping, EIA and environmental management plans (EMPs), as well as the review process followed by the authorities and the appeal procedures;
- A summary of other potentially applicable environmental legislation;
- Appendices containing lists of projects that require EIA; and
- Acronyms and useful contacts.

The country chapters are arranged in alphabetical order from Chapter 3. Chapter 2 provides an overview of the DBSA's policy and procedures for the environmental appraisal of projects.

1.2 Summary of the constitutional, legal and policy requirements for EIA in SADC countries

1.2.1 Constitutional direction regarding health, wellbeing and environmental protection

The first aspect to consider is whether the right to health and wellbeing of citizens and the protection of the environment is included in the Constitution of each country, as these instruments provide direction for all subsequent policies and laws. Most of the Constitutions of the countries considered give an inalienable right to health, wellbeing and environmental protection, but these rights are conspicuously absent from the Constitutions of Botswana, Zambia and Zimbabwe. Even though these rights are afforded through a variety of policy instruments and visions in these three countries, this does not rectify the constitutional position, as a vision or policy is not a legal document.

1 Weaver, A, 2003. *EIA and sustainable development: Key concepts and tools*. Windhoek: Southern African Institute for Environmental Assessment (SAIEA), pp 3–10.

Table 1.1: Summary of administrative and legal structures

Country	Ministry responsible for environmental management	Authority responsible for EIA	Name of EIA Act	EIA Regulations
Angola	Ministry of Environment (MoE)	National Directorate for Prevention and Environmental Impact Assessment	Environment Framework Law, No. 5/98 of 19 June 1998	Decree on Environmental Impact Assessment, No. 51/2004 of 23 July 2004
Botswana	Ministry of Environment, Wildlife and Tourism (MEWT)	Department of Environmental Affairs (DEA)	Environmental Assessment Act, No. 10 of 2010 (still to be passed into law)	In draft
DRC	Ministry of Environment, Nature Conservation and Tourism (MENCT)	Group for Environmental Studies of Congo (Groupe d'Etudes Environnementales du Congo (GEEC)	Environmental Protection Act, No. 11/009 of 9 July 2011	None
	Ministry of Mines	Department for the Protection of the Mining Environment	Mining Code, Law No. 007/2002	The Mining Regulations, Decree No. 038/2003 of 26 March 2003, contain environmental considerations.
Lesotho	Ministry of Tourism, Culture and Environment (MTCE)	Department of Environment	Environment Act, No. 10 of 2008	In draft
Madagascar	Ministry of Environment, Water, Forests and Tourism (MEEFT)	National Office for the Environment (ONE)	Environment Charter, Law No. 90-033 of 21 December 1990, as amended by Law No. 97-012 and Law No. 2004-015	Decree on Ensuring the Environmental Suitabillity of Investments (Décret Relatif à la Mise en Compatibilité des Investissements avec l'Environnement (MECIE)), Decree No. 99-954, as amended by Decree No. 2004-167
Malawi	Ministry of Natural Resources, Energy and Environment (MNREE)	Environmental Affairs Department (EAD)	National Environmental Management Act, No. 23 of 1996	None, but the EIA Guidelines have been gazetted and have legal standing.
Mauritius	Ministry of Environment and Sustainable Development (MoE)	Department of Environment: EIA Committee	Environmental Protection Act, No. 19 of 2002	None

| Country | Ministry responsible for environmental management | Authority responsible for EIA | Name of EIA Act | EIA Regulations |

Mozambique	Ministry for the Coordination of Environmental Action (MICOA)	National EIA Directorate	Environmental Law, No. 20/97 of 1 October 1997	Regulations on the Environmental Impact Assessment Process, Decree No. 45 of 2004
Namibia	Ministry of Environment and Tourism (MET)	Department of Environmental Affairs (DEA)	Environmental Management Act, No. 7 of 2007	In draft
South Africa	Department of Environmental Affairs (DEA)	National DEA or provincial departments (see Chapter 12, section 12.2.2 for list)	National Environmental Management Act, No. 107 of 1998, as amended	Environmental Impact Assessment Regulations R543, R544 and R545 of June 2010
Swaziland	Ministry of Tourism and Environmental Affairs (MTEA)	Swaziland Environmental Authority (SEA)	Environmental Management Act, No. 5 of 2002	Environmental Audit, Assessment and Review Regulations of 1996, as amended in 2000
Tanzania	Vice-President's Office	National Environmental Management Council (NEMC)	Environmental Management Act, No. 20 of 2004	Environmental Impact Assessment and Audit Regulations, Government Notice No. 349 of November 2005
Zambia	Ministry of Tourism, Environment and Natural Resources (MTENR)	Zambian Environmental Management Agency (ZEMA)	Environmental Management Act, No. 12 of 2011	Environmental Protection and Pollution Control (Environmental Impact Assessment) Regulations, Statutory Instrument No. 28 of 1997
Zimbabwe	Ministry of Environment and Natural Resources Management (MENRM)	Environmental Management Agency (EMA)	Environmental Management Act, Chap 20:27, of 2002	Environmental Management (EIAs and Ecosystems Protection) Regulations, Statutory Instrument No. 7 of 2007

Where the constitutional rights to a healthy and clean environment have been articulated, they have been given effect through a variety of national environmental action plans, visions and strategy documents compiled for each country. EIA is one of the main tools identified in the SADC countries to manage and protect the environment, and it has now been formalised into law in all 14 SADC states (see Table 1.1).

1.2.2 Definition of 'environment'

The 14 SADC countries have 14 different definitions of the term 'environment' (see Table 1.2).

Table 1.2: Definitions of the term 'environment' in EIA legislation

Angola
'any change to the environment, either to better or worse, especially with effects on the air, water, soil and subsoil, biodiversity, health of persons and cultural heritage, resulting directly or indirectly from human activities'

Botswana
'the physical, ecological, archaeological, aesthetic, cultural, economic, institutional, human health and social aspects of the surroundings of a person'

Democratic Republic of Congo
'the assemblage of all natural and man-made elements and the biological and geochemical systems in which they operate, as well as economic, social and cultural factors which promote the existence, transformation and development of the milieu, living organisms and human activities'

Lesotho
'the physical factors of the surroundings of the human beings (sic) including land, water, atmosphere, climate, sound, odour, taste, biological factors of animals and plants and the social factors of aesthetics and includes both natural and built environment'

Malawi
'the physical factors of the surroundings of the human being including land, water, atmosphere, climate, sound, odour, taste and the biological factors of fauna and flora and includes the cultural, social and economic aspects of human activity, the natural and built environment'

Mauritius
The environment comprises:
'a) land, air water or any combination of these media;
b) all living organisms; and
c) any built-up environment'

Mozambique
'Environment means the medium in which humans and other beings live and interact among themselves and with the medium itself, including:
- *Air, light, land and water;*
- *Ecosystems, biodiversity and ecological relationships;*
- *All organic and inorganic matter;*
- *All socio-cultural and economic conditions which affect the lives of communities.'*

Namibia
'the complex of natural and anthropogenic factors and elements that are mutually interrelated and affect the ecological equilibrium and the quality of life, including:
- *The natural environment, i.e. the land, water, and air, all organic and inorganic material, and all living organisms;*
- *The human environment, i.e. the landscape and natural, cultural, historical, aesthetic, economic and social heritage and values'*

South Africa
'the surroundings within which humans exist and that are made up of: the land, water and atmosphere of earth; micro-organisms, plant and animal life; any part or combination of [the aforementioned] and the inter-relationships among and between them; and the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and wellbeing'

Swaziland
'the whole or any component of:
- *Nature including air, land, water, soils, minerals, energy (other than noise), and living organisms (other than humans);*
- *The interactions between the components of nature and between those components and humans;*
- *Physical, aesthetic and cultural qualities or conditions that affect the health and wellbeing of people;*
- *And unless the context otherwise requires, refers only to the environment within the territory of Swaziland, or over which Swaziland exercises rights or sovereignty and environmental has a corresponding meaning'*

Tanzania
'the surroundings of human beings including air, land, water, climate, sound, light, odour, taste, micro-organisms, the biological factors of animals and plants, cultural resources and the social economic factor of aesthetics and includes both the natural and the built environment and the way they interact'

Zambia
'natural or manmade surroundings at any place, comprising air, water, land, natural resources, animals, buildings and other constructions (sic)'

Zimbabwe
- *'the natural and man-made resources, both biotic and abiotic, occurring in the lithosphere and atmosphere, water, soil, minerals and living organisms whether indigenous or exotic, and the interaction between them;*
- *ecosystems, habitats, spatial surroundings and their constituent parts whether natural or modified or constructed by people and communities, including urbanised areas, agricultural areas, rural landscapes, and places of cultural significance;*
- *the economic, social, cultural or aesthetic conditions and qualities that contribute to the value of the matters set out in points above'*

Most of these definitions provide a holistic interpretation of the term 'environment' to include the natural, social and cultural environments. However, some of the definitions (in Lesotho, South Africa and Zambia) consider the environment to be the *physical surroundings* of the human being and the influence that these physical components have on humans, rather than seeing human beings as an integral part of the environment and agents of change within that environment. In some cases (Lesotho and South Africa), this rather limited interpretation of the term 'environment' is clarified in the

EIA guidelines, regulations or guiding principles. This leaves room for legal challenge as to what actually constitutes the 'environment' but, as far as can be ascertained, it has not been challenged in court. If the social component is not actually stipulated as a requirement in the EIA report, social impacts could be completely overlooked.

Fortunately, many of the larger development projects in sub-Saharan Africa are funded by an international donor or a bank that subscribes to the Equator Principles, in which case the funding agency specifically requires an Environmental and Social Impact Assessment (ESIA) or an Environmental, *Social and Health* Impact Assessment (ESHIA) (emphasis added). Some multinational companies also require EIAs conducted for their development projects to conform to their own corporate environmental policies, which may be more comprehensive than the legal requirements of the host country.

1.2.3 Environmental laws

Every country in the SADC region has a dedicated environmental Act in force, with the exception of Botswana, whose Act has been published but not yet passed in Parliament. However, some pieces of legislation are now more than ten years old, as shown in Table 1.1.

Two countries in SADC, Malawi and Mauritius, do not have any specific EIA regulations, while regulations in Botswana, Lesotho and Namibia are currently in draft form (see Table 1.1). In the absence of specific EIA regulations, Malawi and Mauritius have detailed guidelines for the EIA process in general and/or for key economic sectors. The Malawian Guidelines have been gazetted and, therefore, enjoy legal standing.

1.3 Summary of EIA administrative structures in SADC countries

Every SADC country has a government ministry responsible for the environment, except Tanzania, where the NEMC falls under the Vice-President's Office. While Angola, Mauritius, and Mozambique have dedicated ministries of environment, the other SADC countries have linked environment at ministerial level variously with tourism, natural resources, wildlife, culture, water and forests (see Table 1.1). This can have advantages and disadvantages: linking environment to related sectors can result in closer cooperation between sectors; however, it can also result in a ministry having a conflicting mandate, for example where tourism or mining is promoted in a sensitive environmental area.

Every SADC country has a department or directorate responsible for EIA (see Table 1.1), but the levels of funding and staffing are mostly inadequate to deal with the processing of EIAs, let alone any follow-up compliance audit or inspection. In addition, many EIA authorities struggle to retain staff, and the resulting combination of high staff turnover and a lack of experience means that environmental decision-making is not particularly robust.

The responsibility for environmental management lies with central government in most SADC countries, with the exception of South Africa and Botswana. In both of these countries, certain national or strategic projects are dealt with at a national level, but most EIAs for development projects are handled by the provincial or local DEA authorities. The DRC is currently in a reconstruction phase, and one of its main initiatives is to decentralise government to the provinces. However, this has not yet taken place, and environmental governance still occurs at the national level.

Most countries in SADC have legislation that allows the environmental authorities to convene permanent interministerial committees on the environment, as well as ad hoc technical committees to advise them on individual projects. Usually the latter committees comprise representatives from several sectors, including the sector of the project itself. These structures ensure a multidisciplinary review of EIAs and improve intersectoral collaboration.

Although interministerial committees are prescribed by law in all SADC countries, some of these forums do not exist (Botswana) or have not yet been established (Lesotho and Namibia). Generally, their effectiveness in promoting a multidisciplinary approach to sustainable development has yet to be demonstrated for a number of reasons, such as: low frequency of meetings, high turnover of members, lack of active participation by all ministries, and a limited awareness of the linkages between the environment, economic development and human wellbeing. Little evidence could be found of minutes or reports from many of these committees, indicating a lack of transparency and public accountability.

1.4 EIA procedures

An analysis of the EIA process in each country provides some interesting comparisons. Specific comments are made below on: the EIA process in general, the Terms of Reference, the public participation process, EMPs, strategic environmental assessments and the need for environmental assessment practitioners to be registered.

1.4.1 EIA process

Table 1.3 shows that most countries follow some form of screening or scoping EIA process. The exceptions are Angola, Namibia and Zimbabwe, which combined the screening and scoping phases into one, and the DRC, which

is currently drafting regulations for the EIA process. Note that each country has its own terminology for each phase. For purposes of this introductory chapter, the terms commonly used by the World Bank are used, as shown in Table 1.3.

1.4.2 Terms of Reference

The compilation of good, comprehensive Terms of Reference for an EIA is crucial to its success. Inadequate Terms of Reference usually result in poor EIA reports; this inevitably leads to lengthy and costly project delays, as the proponents are requested to provide more information or, worse, the EIA report is rejected because the authorities cannot make a decision based on the information provided. Therefore, it is important to ensure that the Terms of Reference are comprehensive enough to address the impacts of the proposed project. Seven SADC countries require the proponent to obtain approval of the Terms of Reference from the authorities before commencing with the EIA (see Table 1.4). This ensures a level of quality control but, too often, the authorities fail to check that the Terms of Reference have actually been carried out. Three countries (Angola, Madagascar and Swaziland) do not require any approval of the Terms of Reference before the EIA study is started. In Tanzania and Mauritius, the Terms of Reference are drawn up by the authorities, not the proponent (see Table 1.4).

Table 1.3: EIA steps and terminology

Country	EIA stage					
	Screening	Scoping	EIA	Permit, licence authorisation	EMP	Follow-up
World Bank	Screening	Scoping	EIA	-	EMP	
Angola	Screening	-	Environmental Impact Statement (EIS) and EMP	Environmental Licence	Included in EIA	Monitoring of EIA implementation
Botswana	Screening	Preliminary EIA	EIS and EMP	Environmental Authorisation	Included in EIA	Post-EIA monitoring and auditing
DRC [2]	-	-	EIS	Favourable Environmental Opinion	Environmental Management Plan for the Project (EMPP) and Mitigation and Rehabilitation Plan (MRP)	-
Lesotho	Screening	Project Brief Terms of Reference	EIS and Environmental Management and Mitigation Plan (EMMP)	EIA Licence	Included in EIA	Audit
Madagascar	Screening	Programme of Environmental Engagement (PREE)	EIA and EMP	Environmental Permit	Included in EIA	Monitoring and control of EMP, audit
Malawi	Screening	Project Brief OR Scoping	EIA report and EMP	EIA Certificate	Included in EIA report	Monitoring of EIA implementation
Mauritius	Screening	Preliminary Environmental Report	EIA report and EMP	EIA Licence	Included in EIA	Post-EIA monitoring

2 Although the Environmental Protection Act has been promulgated, there are no Regulations pertaining to the EIA process that have to be followed; therefore, the terminology listed in this table reflects that of the Mining Code and Regulations.

Table 1.3: EIA steps and terminology *(continued)*

Country	Screening	Scoping	EIA stage: EIA	Permit, licence authorisation	EMP	Follow-up
Mozambique	Application and screening	Environmental Pre-Viability Report and Scope	EIS and EMP	Environment Licence	Included in EIA	Environmental audit and inspection
		Definition and Terms of Reference or Pre-Assessment	EIS and EMP or Simplified Environmental Report (SER)			
		or Terms of Reference	SER			
Namibia	Registration and screening	-	Environmental Assessment and EMP	Letter of Authorisation	Included in Environmental Assessment	Monitoring and auditing
South Africa	Screening	Basic Assessment Report (BAR) or Scoping	- EIA and EMP	Environmental Authorisation	Included in BAR or EIA	
Swaziland	Screening	Initial Environmental Evaluation (IEE) and Comprehensive Mitigation Plan (CMP) OR Scoping	- EIA	Environmental Compliance Certificate	Included in IEE CMP	Project Compliance Report
Tanzania	Registration and screening	Preliminary EIA, or Scoping and Terms of Reference	EIS and EMP	EIA Certificate	Included in EIS	Environmental auditing
Zambia	Screening	Project Brief or Terms of Reference for EIS	EIS and EMP	Environmental Authorisation	Included in EIA	Post-EIA audit
Zimbabwe	Prospectus	-	EIA report and EMP	EIA Certificate and Permit	Included in EIA	Monitoring and auditing

Table 1.4: Methods used for Terms of Reference for EIAs by each SADC country

Country	Terms of Reference drawn up by proponent (no review)	Terms of Reference drawn up by proponent (authority review)	Terms of Reference drawn up by authorities	Comments
Angola	Yes	-	-	
Botswana	-	Yes	-	
Democratic Republic of Congo	-	-	-	Very detailed scope of work is provided in the EIA Annexures of the Mining Regulations
Lesotho	-	Yes	-	
Madagascar	Yes	-	-	
Malawi	-	Yes	Yes	
Mauritius	-	-	Yes	
Mozambique	-	Yes	-	
Namibia	-	Yes	-	
South Africa	-	Yes	-	
Swaziland	Yes	-	-	
Tanzania	-	-	Yes	
Zambia	-	Yes	-	
Zimbabwe	-	?	-	Not clearly stated - assumed to be included in prospectus

1.4.3 Public participation

Some level of public consultation is required as part of the EIA process in all SADC countries (see Table 1.5); however, the timing of this involvement and the mode of consultation vary significantly. The scope of participation ranges from full engagement of interested and affected parties to various means, including public meetings and focus groups (e.g. in South Africa), to the passive placement of the EIA report for public review and comment (e.g. in Mauritius).

It is generally considered best practice to consult the public as early in the EIA process as possible, that is, in the scoping phase. Seven countries (Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa and Zambia) require this (see Table 1.5). However, most countries, with the exception of Angola, Lesotho, Madagascar and Mauritius, require the proponent (or his/her consultants) to undertake public participation during the preparation phase of the EIA.

Table 1.5: Timing and responsibility for public participation in EIA processes

Country	Public consultation required in scoping	Public consultation required during preparation of EIA	Public review and/or public hearings after EIA report completed
Angola	No	No	Yes (authorities)
Botswana	Yes (proponent)	No	Maybe (authorities)
Democratic Republic of Congo[3]	No	Yes (proponent)	No
Lesotho	Yes (proponent)	No[4]	Yes (proponent or authorities)
Madagascar	No	No	Yes (authorities)
Malawi	Yes (proponent)	Yes (proponent)	Maybe (authorities)
Mauritius	No	No	Yes (authorities)
Mozambique	Yes (proponent)	Yes (proponent)	Maybe (authorities)
Namibia	Yes (proponent)	Yes (proponent)	No
South Africa	Yes (proponent)	Yes (proponent)	No
Swaziland	No	Yes (proponent)	Yes (authorities)
Tanzania	No	Yes (proponent)	Yes (authorities)
Zambia	Yes (proponent)	Yes (proponent)	Maybe (authorities)
Zimbabwe	No	Yes (proponent)	No

In Angola, Lesotho, Madagascar and Mauritius, the authorities will hold public hearings as the sole means of public consultation. This approach is typical of many northern hemisphere countries and perhaps reflects the origins of the drafting teams of those countries' legislation. When this is the only means of consultation, it constitutes a major weakness. It assumes a Eurocentric ability on the part of the public to read and critically evaluate a completed EIA report placed, for example, in a library, or to access it online, or to have the financial means to travel to and participate meaningfully in a public hearing. In most SADC countries, this type of public engagement is simply not possible. The EIA process in these countries, therefore, fails to address the needs and concerns of the usually poor and marginalised affected public.

1.4.4 Environmental management plans

None of the SADC countries, except the DRC and Swaziland, require a separate EMP. Most countries only require the EIA report to include mitigation measures; in some cases, the monitoring programme must also be specified.

3 In terms of the EIA Regulations of the Mining Code (this may change when Regulations in terms of the Environmental Protection Act are introduced).
4 Public consultation is not required in terms of the Act, but the EIA Guidelines state that it is required.

The DRC requires a separate EMP for the Project (EMPP) and/or a Mitigation and Rehabilitation Plan (MRP) to be prepared according to detailed prescriptive requirements in the Annexures of the Mining Regulations. Swaziland also requires a separate Comprehensive Mitigation Plan (CMP).

This finding is worrying because most mitigation plans in EIAs are vague statements of intent, rather than detailed EMPs. This can be attributed to the fact that the detailed final design of a project may only be completed after EIA approval and, therefore, the detailed information required for the EMP is only known after completion of the EIA. This major shortcoming of most EIA processes renders the EIA of limited value if its recommendations are not properly implemented in the construction and operational stages of the project.

Some jurisdictions, such as South Africa and Lesotho, make the compilation of an EMP a condition of the EIA licence, permit or authorisation. While this is laudable, it is far from ideal because the public does not have an opportunity to provide input to or make comments on the EMP – and the EMP is often the key document that is supposed to address all their concerns.

Compounding the situation is the general lack of post-EIA follow-up and compliance monitoring and auditing by the authorities. Even though most SADC countries make provision for inspections, audits and monitoring by the authorities, in practice very little is done. This is due in large part to a lack of human, financial and technical resources (e.g. vehicles), further complicated by the long distances involved, poor infrastructure and the remote nature of many projects.

The lack of rigorous requirements and accountability for the preparation and implementation of EMPs is probably the area of EIA practice that is of greatest concern in the SADC region. Even assuming that quality EIAs are being produced and the authorities are making the best decisions, the lack of effective EMP implementation seriously reduces the value of the EIA process.

1.4.5 Strategic environmental assessments

Strategic environmental assessment continues to gain momentum, and much of the newer legislation requires strategic environmental assessments for policies, plans and programmes (e.g. Botswana, Lesotho, Mauritius, Namibia, South Africa, Swaziland and Tanzania). The legislation in Madagascar and Malawi does not refer to strategic environmental assessments specifically, but both countries require an EIA of new national policies, plans and programmes.

1.4.6 Registration of EIA practitioners

One of the main problems regarding the effectiveness of EIA is the role of the environmental assessment practitioners. There are numerous concerns across the region about the quality of such practitioners. These relate to their tertiary qualifications, their experience in EIA, and their ability to lead a multidisciplinary team of specialists and produce a report with sufficient objective, accurate information to allow decision-makers (and the public) to make an informed decision about the project.

One of the most recognised ways of overcoming this problem is to introduce a certification scheme for environmental assessment practitioners, based on a combination of tertiary qualifications, core competencies in EIA, demonstrated EIA experience, and a commitment to ongoing professional development. The aim is to ensure a level of professional quality and conduct through a rigorous set of qualifying criteria and the threat of disciplinary action if the Code of Conduct is breached. At present, only South Africa, Botswana and Tanzania have a statutory requirement for certification of environmental assessment practitioners, while Lesotho and Namibia have taken steps towards a certification scheme (see Table 1.6).

As shown in Table 1.6, only two countries have a registration system based on some professional criteria for environmental assessment practitioners – Angola and Mozambique. These systems are not as rigorous as full professional certification, but they do offer some degree of quality control.

Table 1.6: Certification, registration and independence of environmental assessment practitioners

Country	Statutory registration and certification scheme for EIA consultants criteria	Non-statutory registration system for EIA consultants based on professional with the EIA	Consultants for a given EIA to be approved by authorities before commencing	List of approved consultants held by environmental authority	EIA consultants to be independent in terms of the law
Angola	X	Yes	X	X	X
Botswana	Yes	X	X	X	X
Democratic Republic of Congo	X	X	X	X	X
Lesotho	In progress	X	Yes	Yes	X
Madagascar	X	X	X	X	X
Malawi	X	X	X	Yes	X
Mauritius	X	X	X	X	X
Mozambique	X	Yes	Yes	X	X
Namibia	In progress	X	X	Yes	X
South Africa	Yes	X	X	X	Yes
Swaziland	X	X	X	X	X
Tanzania	Yes	X	X	X	X
Zambia	X	X	Yes	X	X
Zimbabwe	X	X	X	Yes	X

Three countries require EIA team members and their qualifications to be listed in the Terms of Reference sent to the authorities for approval before commencing with the EIA. This affords some level of quality control, assuming that the information provided by the consultants is accurate. The lowest level of quality assurance is where the environmental agency has a list of approved consultants. This generally lists all practitioners present in the country, and there is little or no quality control, as is the case in Lesotho, Malawi, Namibia and Zimbabwe.

Only South Africa stipulates that EIA consultants must be independent, which means that: a) they cannot have any business, financial, personal or other interest in the activity, application or appeal in respect of which they were appointed, other than fair remuneration for work performed; and b) there are no circumstances that may compromise their objectivity. The independence clause has been invoked during some ministerial appeals (viz. the N2 Wild Coast Toll Road appeal, where the private development partner owned shares in the consulting company that did the EIA).

There is, therefore, little in the way of real control over the professionalism and conduct of EIA consultants in the region, although this does seem to be changing. What is not yet clear is how the issue of reciprocity will be addressed between two countries with statutory registration and certification schemes.

1.5 Summary of international environmental obligations of SADC countries

The main international conventions, protocols and treaties relevant to environmental management are summarised in Table 1.7. The following observations can be made:[5]

- All SADC countries are contracting parties to the Convention on Biological Diversity. However, phrases in this Convention such as 'as appropriate', 'as far as possible', and 'where appropriate' mean that the interpretation, implementation and impact of this Convention on each SADC country vary widely.
- Eleven of the SADC countries are signatories to the Ramsar Convention. There are 35 designated Ramsar sites in the region, covering 15.59 million ha. The largest site is the Okavango Delta in Botswana, which spans 6.9 million ha. Four sites in Tanzania collectively protect almost 5 million ha and one site in Mozambique extends over 1.3 million ha. South Africa has the most designated sites – 17, covering nearly 500 000 ha.
- All the countries in the SADC region, with the exception of Angola, have ratified or acceded to the Convention on International Trade in Endangered Species (CITES) and have signed or ratified the Cartagena Protocol on Biosafety.
- Seven SADC countries have Memoranda of Understanding in terms of the Convention on Migratory Species (the Bonn Convention): Angola, the DRC, Madagascar, Mauritius, Mozambique, South Africa and Tanzania. These Memoranda relate variously to marine turtles, dugongs, migratory waterbirds, birds of prey, seabirds and gorillas.
- All countries have ratified or accepted the World Heritage Convention. Note that designated natural World Heritage Sites in the region (i.e. nominated for their biodiversity, rather than cultural factors) comprise more than 11% of the world's total. These sites afford protection to vast ecosystems in a variety of biomes.

5 The information in this section is adapted from SAIEA (Southern African Institute for Environmental Affairs), 2005. *Situation assessment on the integration of biodiversity issues in impact assessment and decision making in southern Africa.* Unpublished report produced as part of the International Association for Impact Assessment (IAIA) Capacity Building in Biodiversity and Impact Assessment (CBBIA) project, updated from the relevant websites.

- All countries have signed and ratified the Convention to Combat Desertification, as well as the Framework Convention on Climate Change. This is important for the region, which is extremely susceptible to climate change and increased desertification as a direct result of climate change and anthropological factors.
- All the SADC countries have ratified both the Vienna Convention on the Protection of the Ozone Layer and the Montreal Protocol on ozone-depleting substances.
- The position of the SADC countries on chemicals and waste is mixed. All but Angola and Zimbabwe have acceded to the Basel Convention on the transboundary movement of hazardous waste, and most have either signed or ratified the Stockholm Convention on Persistent Organic Pollutants. Only two countries have not signed, ratified or acceded to the Rotterdam Convention on prior informed consent for hazardous materials and pesticides (Swaziland and Zimbabwe).
  This leaves some SADC countries open to abuse from the illegal dumping of spent chemicals, hazardous wastes and banned pesticides.
- All SADC countries, except the landlocked country of Swaziland, have either signed or ratified the United Nations Law of the Sea.
- All the SADC countries along the east coast of Africa and the Indian Ocean islands affected by the Nairobi Convention have committed themselves to the protection, management and development of the marine and coastal environment of the East Africa region.

Table 1.7: Summary of international conventions, protocols and agreements signed by SADC countries[1]

	Biodiversity					Heritage	Land	Atmosphere				Chemicals and waste		Ocean
Country	CBD[2]	Ramsar[3]	CITES[4]	CMS (Bonn)[5]	Biosafety (Cartagena Protocol)	World Heritage Convention	Desertification[6]	Climate change[7]	Vienna Convention[8]	Montreal Protocol[9]	Basel Convention[10]	Rotterdam Convention[11]	Stockholm Convention[12]	UNCLOS[13]
Angola	✓R	X	X	✓	✓A	✓R	✓S, R	✓C, P	✓R	✓R	X	✓S	✓A	✓S, R
Botswana	✓R	✓	✓A	X	✓A	✓A	✓S, R	✓C, P	✓R	✓R	✓A	✓A	✓A	✓S, R
DRC	✓R	✓	✓A	✓	✓A	✓R	✓S, R	✓C, P	✓R	✓R	✓A	✓S, R	✓A	✓S, R
Lesotho	✓R	✓	✓R	X	✓A	✓A	✓S, R	✓C, P	✓R	✓R	✓A	✓A	✓S, R	✓S, R
Madagascar	✓R	✓	✓R	✓	✓R	✓R	✓S, R	✓C, P	✓R	✓R	✓A	✓S, R	✓S, R	✓S, R
Malawi	✓R	✓	✓A	X	✓R	✓R	✓S, R	✓C, P	✓R	✓R	✓A	✓A	✓S, R	✓S, R
Mauritius	✓R	✓	✓R	✓	✓A	✓R	✓S, R	✓C, P	✓R	✓R	✓A	✓A	✓S, R	✓S, R
Mozambique	✓R	✓	✓A	✓	✓R	✓R	✓S, R	✓C, P	✓R	✓R	✓A	✓A	✓S, R	✓S, R
Namibia	✓R	✓	✓A	X	✓R	✓A	✓S, R	✓C, P	✓R	✓R	✓A	✓S, R	✓A	✓S, R
South Africa	✓R	✓	✓R	✓	✓A	✓R	✓S, R	✓C, P	✓R	✓R	✓A	✓A	✓S, R	✓S, R
Swaziland	✓R	X	✓A	X	✓A	✓R	✓S, R	✓C, P	✓R	✓R	✓A	X	✓A	
Tanzania	✓R	✓	✓R	✓	✓A	✓R	✓S, R	✓C, P	✓R	✓R	✓A	✓S, R	✓S, R	✓S, R
Zambia	✓R	✓	✓A	X	✓A	✓R	✓S, R	✓C, P	✓R	✓R	✓A	✓A	✓S, R	✓S, R
Zimbabwe	✓R	X	✓A	X	✓R	✓R	✓S, R	✓C, P	✓R	✓R	X	X	✓S	✓S, R

1 S means that the Convention has been signed;
R indicates ratification: A means accession to the Convention.
2 Convention on Biological Diversity
3 Convention on Wetlands of International Importance especially as Waterfowl Habitat
4 Convention on the International Trade in Endangered Species
5 Convention on Migratory Species
6 Convention to Combat Desertification
7 Framework Convention on Climate Change and the Kyoto Protocol: C means that the country has ratified the Convention; P means that the Protocol has been ratified.
8 Vienna Convention for the Protection of the Ozone Layer
9 Montreal Protocol on Substances that Deplete the Ozone Layer
10 Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal
11 Rotterdam Convention on the Prior Informed Consent Procedures for Certain Hazardous Chemicals and Pesticides in International Trade
12 Stockholm Convention on Persistent Organic Pollutants
13 United Nations Convention on the Law of the Sea

1.6 Summary of SADC environmental protocols

There are two important SADC environmental protocols:

- The Protocol on Shared Watercourse Systems; and
- The Protocol on Wildlife Conservation and Law Enforcement.

The Protocol on Shared Watercourse Systems regards and incorporates the following:

- The Helsinki Rules on uses of the waters of international rivers and the work of the International Law Commission on the non-navigational uses of international watercourses;
- The relevant provisions of Agenda 21 of the United Nations Conference on Environment and Development, and the concepts of environmentally sound management, sustainable development and the equitable utilisation of shared watercourse systems in the SADC region;
- The existing and emerging socio-economic development programmes in the SADC region and their impact on the environment;
- Judicious and coordinated utilisation of the resources of the shared watercourse systems in the SADC region;
- The need for coordinated and environmentally sound development of the resources of shared watercourse systems in the SADC region in order to support sustainable socio-economic development and the common utilisation and management of the resources of these watercourse systems; and
- Other agreements in the SADC region on the common utilisation of certain watercourses.[6]

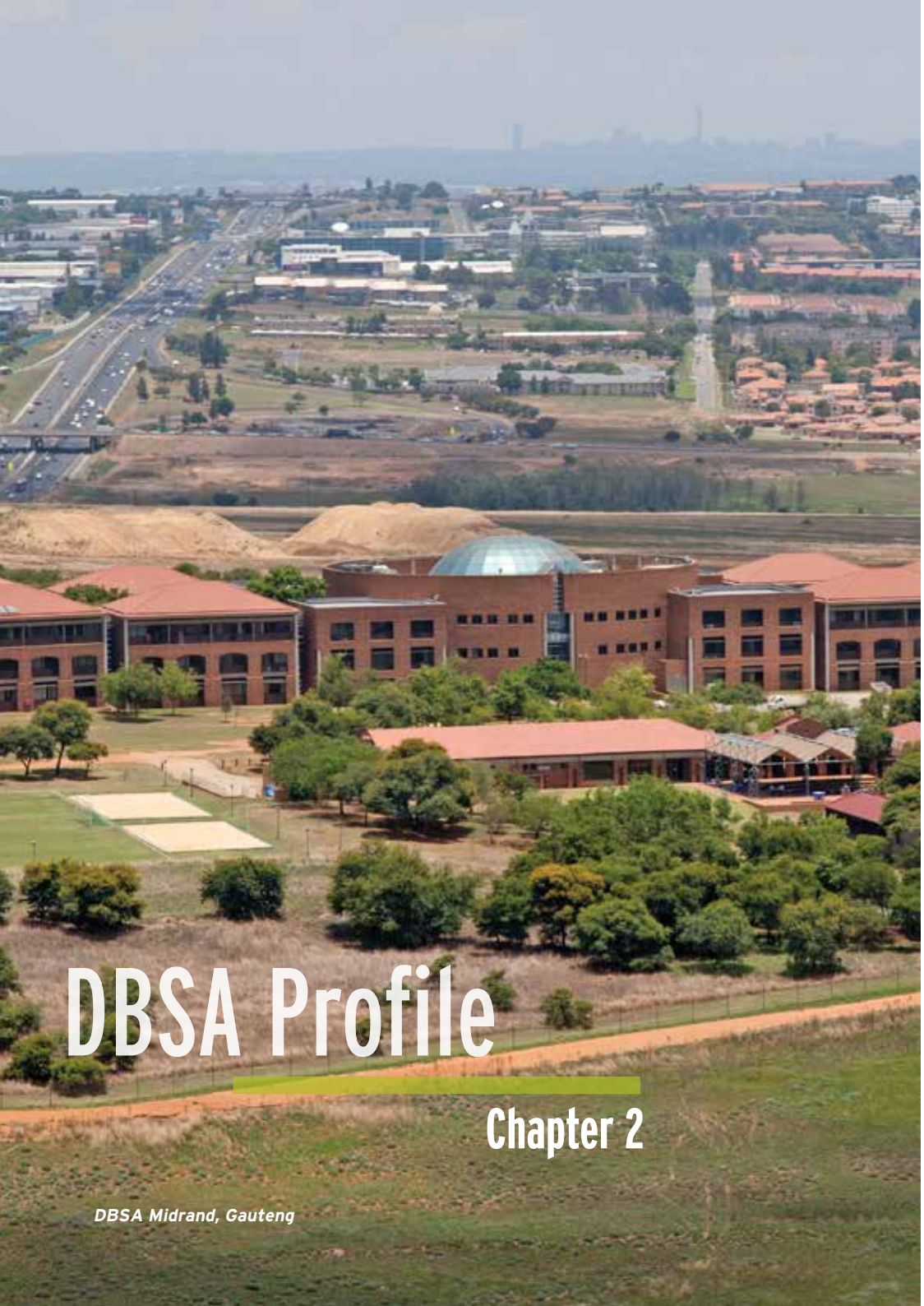
All the African mainland countries have signed this Protocol, with the exception of the DRC.

The Protocol on Wildlife Conservation and Law Enforcement is an interstate regulation affirming that member states have the sovereign right to manage their wildlife resources and the corresponding responsibility for sustainable use and conservation of these resources. The aim is to establish a common framework for the conservation and sustainable use of wildlife resources in the SADC region and to assist with the effective enforcement of laws governing those resources. All the original 14 SADC states have signed this Protocol.[7]

6 www.iucnrosa.org.zw
7 www.iucnrosa.org.zw

Acronyms

BAR	Basic Assessment Report (South Africa)
CBBIA	Capacity Building in Biodiversity and Impact Assessment
CITES	Convention on International Trade in Endangered Species
CMP	Comprehensive Mitigation Plan (Swaziland)
DBSA	Development Bank of Southern Africa
DEA	Department of Environmental Affairs (Botswana, Namibia, South Africa)
DRC	Democratic Republic of Congo
EAD	Environmental Affairs Department (Malawi)
EIA	environmental impact assessment
EIS	Environmental Impact Statement
EMA	Environmental Management Agency (Zimbabwe)
EMP	environmental management plan
EMMP	Environmental Management and Mitigation Plan (Lesotho)
EMPP	Environmental Management Plan for the Project (DRC)
ESIA	Environmental and Social Impact Assessment
ESHIA	Environmental, Social and Health Impact Assessment
GEEC	Groupe d'Etudes Environnementales du Congo (Group for Environmental Studies of Congo) (DRC)
IAIA	International Association for Impact Assessment
IEE	Initial Environmental Evaluation (Swaziland)
MECIE	Décret Relatif à la Mise en Compatibilité des Investissements avec l'Environnement (Decree on Ensuring the Environmental Suitability of Investments)
MEEFT	Ministère de l'Environnement, de l'Eau, Forêts et Tourisme (Ministry of Environment, Water, Forests and Tourism) (Madagascar)
MENCT	Ministry of Environment, Nature Conservation and Tourism (DRC)
MENRM	Ministry of Environment and Natural Resources Management (Zimbabwe)
MET	Ministry of Environment and Tourism (Namibia)
MEWT	Ministry of Environment, Wildlife and Tourism (Botswana)
MICOA	Ministério para a Coordenação da Acção Ambiental (Ministry for the Coordination of Environmental Action) (Mozambique)
MNREE	Ministry of Natural Resources, Energy and Environment (Malawi)
MoE	Ministry of Environment (Angola); Ministry of Environment and Sustainable Development (Mauritius)
MRP	Mitigation and Rehabilitation Plan (DRC)
MTCE	Ministry of Tourism, Culture and Environment (Lesotho)
MTEA	Ministry of Tourism and Environmental Affairs (Swaziland)
MTENR	Ministry of Tourism, Environment and Natural Resources (Zambia)
NEMC	National Environmental Management Council (Tanzania)
ONE	Office National de l'Environnement (National Office for the Environment) (Madagascar)
PREE	Programme d'Engagement Environnemental (Programme of Environmental Engagement) (Madagascar)
SADC	Southern African Development Community
SAIEA	Southern African Institute for Environmental Assessment
SEA	Swaziland Environmental Authority
SER	Simplified Environmental Report (Mozambique)
ZEMA	Zambian Environmental Management Agency (Zambia)



DBSA Profile

Chapter 2

DBSA Midrand, Gauteng

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Environmental assessment at the Development Bank of Southern Africa

2.1 DBSA profile

The Development Bank of Southern Africa[1] (DBSA) is a development finance institution wholly owned by the South African government. It was established in 1983 to perform an economic development function within the constitutional dispensation of the time. The roles and functions of the Bank have since been transformed in line with the new constitutional and economic dispensation. It now aims to promote socio-economic development and growth in the southern African region within the integrated financial development system. In 1997, the DBSA was reconstituted as a development finance institution in terms of the Development Bank of Southern Africa Act, No. 13 of 1997. The constitution and conduct of the DBSA Board of Directors are governed primarily by the DBSA Act and are further regulated by the Public Finance Management Act, No. 1 of 1999, and sections 284 to 303 of the Companies Act, No. 61 of 1973.

The DBSA's mandate is to provide financial, technical and other assistance to achieve the objectives of the Bank as provided for in section 3 of the DBSA Act. The focus of its investment activities is infrastructure financing and the creation of an enabling environment that maximises private sector access to opportunities and involvement in sustainable economic development and the provision of public financing.

The vision of the DBSA is to facilitate the creation of a prosperous and integrated region, progressively free of poverty and dependency. Its mission is to advance development impact in the Southern African Development Community (SADC) region by expanding access to development finance and effectively integrating and implementing sustainable development.

In terms of the DBSA Act, the strategic objectives of the Bank within the SADC region are as follows:

- Catalyse, expand and enable the delivery of basic social services.
- Provide and build human and institutional capacity.
- Promote broad-based economic growth (job creation, efficiency, fixed capital formation and regional integration).
- Engender sustainability externally (environmental, social and economic) and internally (organisational).

The DBSA's ancillary objectives are to assist other international, national, regional and provincial initiatives in order to achieve an integrated finance system for development, and to assist national, international and private sector bodies in the management of specific funds. The specific objectives of the DBSA are outlined in the Act and its Regulations.

The Bank's strategy is underpinned by two major themes:

- Generating investment in assets, hard and soft, that serve the poor, directly and indirectly, and that support broad-based wealth creation; and
- Mobilising, developing, applying and sharing knowledge in support of greater development effectiveness, innovation and an enabling development environment.

In carrying out its operations in line with its mandate, the DBSA is guided by the principles of additionality, development impact, financial and environmental sustainability, risk management, complementarity with other development finance institutions, partnerships and knowledge management.

In support of the DBSA's strategy, investments in infrastructure assets are made in the following three broad segments:

- Social development and integration: Support the creation of sustainable living environments and alleviate basic services backlogs.
- Economic development: Support the growth of the economic base and employment opportunities.
- Institutional capacity building: Strengthen the institutional capability to deliver on national priorities.

The DBSA's public sector operations in South Africa are executed through the South African Operations Division, while the Investment Banking Division provides products and services across South Africa. The International Division provides support to other SADC countries, namely Angola, Botswana, the Democratic Republic of Congo (DRC), Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Swaziland, Tanzania, Zambia and Zimbabwe. The SADC portion of the loan book for 2010/11 comprises 17% of the total DBSA loan book. The composition of the loan book is set out in Table 2.1.

1 In this chapter, the terms 'DBSA' and 'the Bank' are used interchangeably.

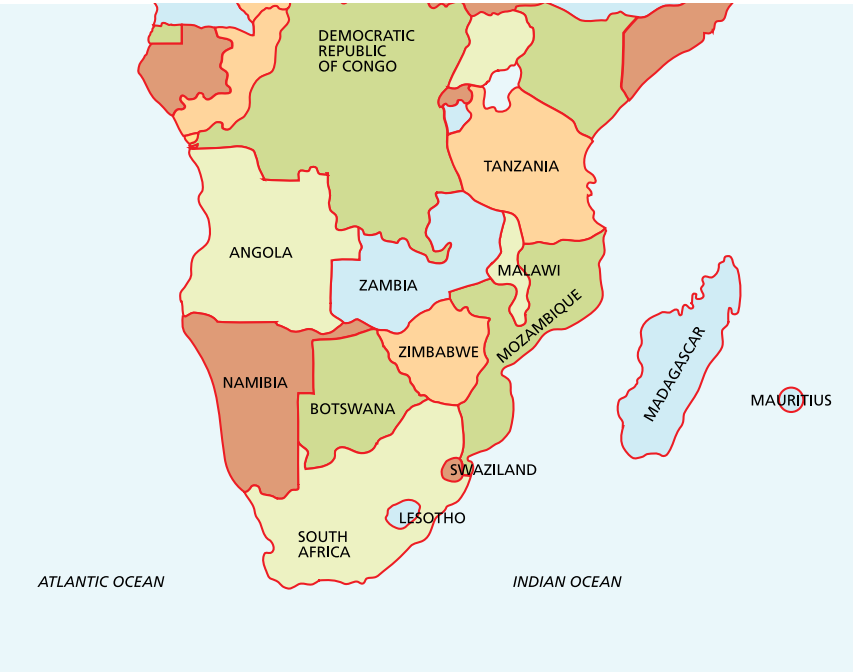


Table 2.1: Geographical composition of the DBSA loan book, 2010/11

Geographical analysis of the DBSA loan book, 2010/11	
Region	**R'000**
Eastern Cape	1 633 061
Free State	596 862
Gauteng	12 337 559
KwaZulu-Natal	8 114 384
Limpopo	1 923 778
Mpumalanga	1 595 982
North West	609 056
Northern Cape	413 676
Western Cape	3 585 434
Multi-regional – South Africa	9 300
SADC (excluding South Africa) and multinationals*	7 934 757
Total DBSA loan book	**38 753 849**

Table 2.2: Composition of the DBSA's SADC loan book, 2010/11

SADC (excluding South Africa) and multinationals*	
Country	**R'000**
Angola	175 199
Botswana	59 479
DRC	62 997
Lesotho	841 805
Malawi	198 027
Mauritius	137 983
Mozambique	1 165 733
Namibia	517 330
Swaziland	202 264
Tanzania	568 158
Zambia	2 277 841
Zimbabwe	104 721
Multinationals	1 623 220
Total DBSA SADC (excluding South Africa) loan book	**7 934 757**

With regard to financial structure, the Bank is a self-funded institution and raises its funding from domestic and international capital markets, bilateral and multilateral institutions, and internally generated resources. The Bank has access to a callable capital facility of R20 billion and an international credit rating as detailed in Table 2.3.[2]

Table 2.3: DBSA credit rating, 31 March 2011

Agency	Type	Short-term	Long-term	Outlook
Fitch	National	F1+(zaf)	AAA(zaf)	Stable
Moody's	Foreign currency issuer	Not rated	A3	Stable
Standard and Poor's	Foreign currency	A-2	BBB+	Stable
	Local currency	A-1	A	Stable

2.2 Environmental assessment and the financial sector

The environmental challenges facing the financial sector and the world as a whole are complex, dynamic and constantly changing. Awareness of environmental and sustainability issues is growing, given the increasing effects of climate

2 DBSA (Development Bank of Southern Africa), 2010/11. *Annual Report*. Midrand: DBSA.

change and environmental degradation. In response, environmental legislation has become increasingly stringent and market policies and measures have been developed to promote sustainable development and a green economy.

The financial sector has responded to the environmental challenges by developing and implementing formal environmental management systems and procedures to mitigate the environmental risks associated with its business operations and activities. Many major development banks have established environmental risk assessment policies and procedures to ensure that infrastructure development programmes and/or projects under consideration are legally compliant, have minimal environmental risk, and are sustainable.

These environmental risks are either direct, meaning that the operations or actions of the financial sector affects or impacts on the environment, or indirect, meaning that the financial institution is affected by the action of another party, such as the borrower. Indirect risk, which includes reputational risk, is of more interest to the financial sector and can often be significant. As part of their traditional risk management systems and procedures, financial institutions have developed environmental risk assessment and appraisal procedures to mitigate the environmental risks related to their products and services. These environmental risk assessment and management procedures, among other requirements, insist that borrowers or clients fully comply with environmental legislative and regulatory requirements. It is against this backdrop that this Handbook was developed.

The Handbook is targeted at development finance institutions, their stakeholders, and those responsible for investment approvals within the financial sector. This includes project managers, environmental assessment practitioners, decision-makers and those responsible for ensuring that the projects under their review, for approval, fully comply with all environmental obligations.

The rationale in this regard is the early identification of environmental issues, including environmental legislative and regulatory requirements applicable to the project, and the incorporation of these environmental considerations during the design phase of the project. Among the major development finance institutions, for example, the World Bank, the International Finance Corporation (IFC) and the African Development Bank (AfDB), these environmental assessment requirements are well defined and applied. The DBSA, as a major development finance institution in the SADC region, has also established environmental risk assessment and management policies and procedures that guide its financing activities within SADC and South Africa.

The DBSA has developed and implemented environmental appraisal procedures that are in line with international best practice, and are designed to ensure easy and consistent application of the environmental assessment module in all Bank-supported programmes and projects.

This section below provides an overview of the DBSA's environmental assessment and management procedures.

2.3 Overview of the projects/programme appraisal process at the DBSA

The environmental appraisal policies and procedures for programmes and projects under consideration for DBSA support have been in place for over two decades. As with other operational policies and procedures within the Bank, they have evolved over time, keeping pace with international best practice. Among the development finance institutions, the World Bank and its private sector arm, the IFC, have been key in driving the development of best practices in environmental risk assessment and management disciplines. As a result, the different environmental assessment policies and procedures that many financial institutions apply in their operations are underpinned by the same framework. However, the support mechanisms required for the implementation of the environmental assessment procedures tend to vary.

At the DBSA, environmental appraisal is an integral part of the overall investment appraisal process,[3] which comprises five appraisal modules: financial, institutional-social, economic, environmental and technical. The decision whether to finance a programme or project depends on the favourable appraisal of all these modules.

The process through which applications or requests for financial assistance are processed and products and services rendered may broadly be divided into seven steps or subprocesses as follows: process the application, mobilise project resources and information, recommend an investment proposition, process the investment decision, conclude the contract, deliver implementation assistance, and conduct project implementation completion. These steps are briefly explained below.

Step 1: Process the application

The processing of the application starts with the receipt of a formal application or a verbal request for financial assistance. The request for financial assistance is assessed against the mandate and is either accepted into the pipeline or rejected. The responsibility in this regard rests with the business unit administrator, the designated project manager and core team members, and the business unit manager.

3 DBSA (Development Bank of Southern Africa), 2006. *Environmental Policy*. Midrand: DBSA.

Step 2: Mobilise project resources and information

The mobilisation of project resources and information involves preparatory work before the actual appraisal of the application or request. This step follows the acceptance of the application or request into the pipeline for consideration. The main activities in this regard include a thorough review of the application; agreement on the scope and assistance required from the DBSA; the mobilisation and briefing of the appraisal team, representing all the modules; and the gathering of the information needed to appraise the sustainability of the programme or project. Risk identification and assessment are also undertaken at this stage.

Step 3: Recommend the investment proposal

This entails appraising the sustainability of the programme or project. At this stage, the respective modules are appraised and the mitigation measures for the identified risks are proposed. The main activity in this step is compiling a set of findings and recommendations, providing justification for the investment and recommended terms and conditions for the transaction. To assist with the appraisal of various modules, the DBSA has developed a comprehensive set of guidelines and procedures.

Step 4: Process the investment decision

This entails administrative work that is conducted to present, consider and approve the investment proposition. The main activities include finalising the project scope, including the product and services to be delivered and the terms and conditions to be recommended for consideration in the investment decision, and compiling and presenting the consolidated appraisal report.

Step 5: Conclude the contract

The conclusion of the contract involves the preparation and presentation of the draft contract to the client or borrower; the negotiation of the contract, including agreement on the project scope, the product and services to be delivered, and the terms and conditions for the transaction; and the signing of the contractual agreement.

Step 6: Deliver implementation assistance

This entails the disbursement of funds required for the implementation of the project in line with the loan agreement. Generally, it involves the monitoring of progress and performance, the receipt and processing of claims and disbursements, and the closeout of the contract.

Step 7: Conduct project implementation completion

The project completion step is conducted to give account of the implementation performance results in line with the terms and conditions, particularly the ones related to the implementation phase of the project. This step entails the initiation of project completion, the quantification and assessment of the implementation performance, the review and recording of lessons learnt, and the presentation of the findings and recommendations through a project completion report.

2.4 Environmental assessment procedures

The environmental appraisal procedures[4] outline the procedural requirements for environmental risk assessment at the DBSA. The procedures are reviewed biennially in order to keep pace with international best practice for environmental assessment, particularly in the financial sector. The procedures have recently been reviewed and are being operationalised. The most recent version of the DBSA environmental appraisal procedures is available from the DBSA website, www.dbsa.org.

The section below provides a brief overview of the procedural requirements for the application of the environmental appraisal module at the DBSA.

The DBSA environmental appraisal procedures provide Bank employees, particularly environmental specialists and analysts, with a common reference document that details the requirements and procedures to be followed when undertaking an environmental appraisal as a precursor to funding a particular project or programme. The purpose and scope of the DBSA environmental appraisal procedures are to:

- Ensure a transparent, uncomplicated and consistent application of the environmental appraisal module in all Bank-supported programmes and projects.
- Identify potential sources of environmental risk during project and programme appraisal, relating to, among other factors, climate change, environmental impact, legal compliance, institutional capacity, and public and political concerns.
- Facilitate the allocation of a quantitative risk rating for project environmental risks, thereby enabling the alignment of the environmental appraisal module with the credit risk model.
- Cover all programmes and projects supported directly by the Bank, as well as those supported by the Bank through financial intermediaries.[5]
- Assist with decision-making and serve as an impact and risk management tool that supports the Bank in managing its business and environmental risks.

4 DBSA (Development Bank of Southern Africa), 2009. *Procedures for environmental appraisal at the DBSA*. Midrand: DBSA.

5 The environmental appraisal procedures include the procedure to be followed where the service required is financial intermediary lending and agency agreements, in terms of which the Bank must ensure that the associated environmental conditions are considered in the environmental appraisal and, more importantly, that the ultimate borrower or implementing institution adheres to the conditions. They also detail the procedure for other DBSA investment products, such as equity investments, bids and bonds.

The main issues addressed in the recent revision of the DBSA environmental appraisal procedures include:

- Climate resilience and vulnerability assessment;
- Desktop greenhouse gas assessment;
- A uniform matrix of environmental indicators against which all projects will be screened;
- A scored result for the environmental impact of each project;
- The requirement for clearly articulated mitigation measures, including legal conditions, linked to the relevant indicator(s); and
- The revision and refinement of the programme review process, where the Bank is approached to fund a programme comprising a range of projects.

The quality of the review process depends largely on the quality of the information provided by clients and in the environmental assessment reports. To this end, the DBSA reserves the right to request additional information or studies on which to base its environmental assessment of a particular project or programme.

2.4.1 Application of the DBSA environmental appraisal procedures in the rest of the SADC region

The DBSA environmental appraisal procedures apply to all its financing projects within South Africa and in the rest of the SADC region. Where projects are to be undertaken in the rest of the SADC region, the legislative and regulatory requirements of the country in which the project is located must be followed within the framework of the environmental appraisal procedures.

Some countries do not have enabling legislation for environmental assessments and/or regulations for the effective implementation of the provisions of the enabling legislation. In these cases, the borrower will be required to implement a process based on the procedural framework outlined in the DBSA environmental appraisal procedures, or with reference to the World Bank or other internationally recognised environmental assessment and review standards.

In such instances, the Bank reserves the right to apply standards, in terms of both procedural requirements and environmental quality, that exceed the legislative and regulatory requirements of the SADC member state in question.

2.4.2 Project and programme environmental appraisal process

The DBSA environmental appraisal process comprises three main stages, which are detailed below.

Initial screening

The initial screening stage comprises a desktop analysis of the project and aims to facilitate the following:

- Decision-making and evaluation during the appraisal process to ensure the effective and efficient appraisal of projects;
- The identification of information required for the environmental appraisal, including the required authorisations and approvals and carbon emission estimates (where required); and
- The identification of potential environmental benefits and opportunities for consideration and emphasis during the appraisal process.

Impact appraisal

The impact appraisal is conducted through engagement with clients, site visits and a review of relevant information and documentation. The environmental appraisal procedures define different appraisal processes for project and programme appraisal, as follows:

- *Project appraisal process:* The individual risks of the project are identified and assigned impact ratings for two scenarios – before and after mitigation. The environmental impact matrix is used during this process; it serves to ensure consistency in the project appraisal process and is applicable to projects in South Africa and the rest of the SADC region.
- *Programme appraisal process:* In the South African context, the Bank often finances programmes, such as municipal infrastructure development programmes. Such programme financing covers a range of projects that may not be well defined or detailed. The programme appraisal process, therefore, focuses primarily on the risk profile of the programme and on the institutional capacity of the borrower to undertake environmental management.

Link to credit approval and pricing processes

The overall impact rating and score of the project are integrated into the credit risk model and the indicator category scores shown on the project cover sheet. This provides decision-makers with an overview of the project's environmental risk and indicator scores.

2.4.3 Monitoring

This involves monitoring the project or programme during the implementation and operational phase. The importance of monitoring to the Bank is threefold. First, it ensures that the borrower complies with the environmental conditions and other environmental requirements set out in the loan agreement, as the legal compliance monitoring and evaluation steps are part of the exercise. Second, it allows for monitoring the effectiveness of mitigation measures derived from the environmental assessment and for implementing corrective actions when such measures prove ineffective or inadequate. Lastly, the DBSA project team, as part of the project monitoring committee, can assist in building the institutional capacity of the borrower for the environmental performance of the project.

The loan agreement with the borrower includes the environmental terms and conditions and related environmental requirements, such as environmental assessments, environmental management plans and other mitigation measures for the identified environmental impacts. It also ensures that the conditions of approval contained in the various environmental authorisations are identified for monitoring and are reflected in the monitoring plan of the project.

2.4.4 Project completion

This process commences after the loan is fully disbursed or upon closure of the Bank's contractual obligations. The completion report consolidates the implementation performance results and provides recommendations for the continued surveillance of the project. The project completion report must reflect the level of compliance with all environmental requirements that are included in the loan agreement as conditions precedent. This serves to assist in the identification of environmental performance criteria for surveillance of the project during its operational phase.

2.4.5 Project evaluation

Further to the project completion process, the Bank's Monitoring and Evaluation Division commissions independent assessments and evaluations of projects and programmes, which includes their environmental performance. The aim is to generate lessons learnt, which find their way into a consolidated report on key learning experiences and recommendations for future interventions.

2.5 Conclusion

Environmental assessment has become a standard procedure for programmes and projects under consideration by the major development banks. However, the primary responsibility for environmental impact assessment remains with the borrower, and the banks will only provide advice and ensure adherence to their requirements for environmental risk assessment. As established in the DBSA procedures for environmental risk assessment and management briefly outlined in this chapter, the environmental requirements from the development banks include, as a minimum, compliance with legislative requirements. This includes compliance with the legislative and regulatory requirements on environmental assessment. In the SADC region, most countries have legislation on environmental management, which includes provisions for environmental assessments of developments or projects. This is in line with the principles of sustainable development, particularly regarding the enactment of effective legislation and the application of environmental assessments as a national instrument for addressing the environmental consequences of development.

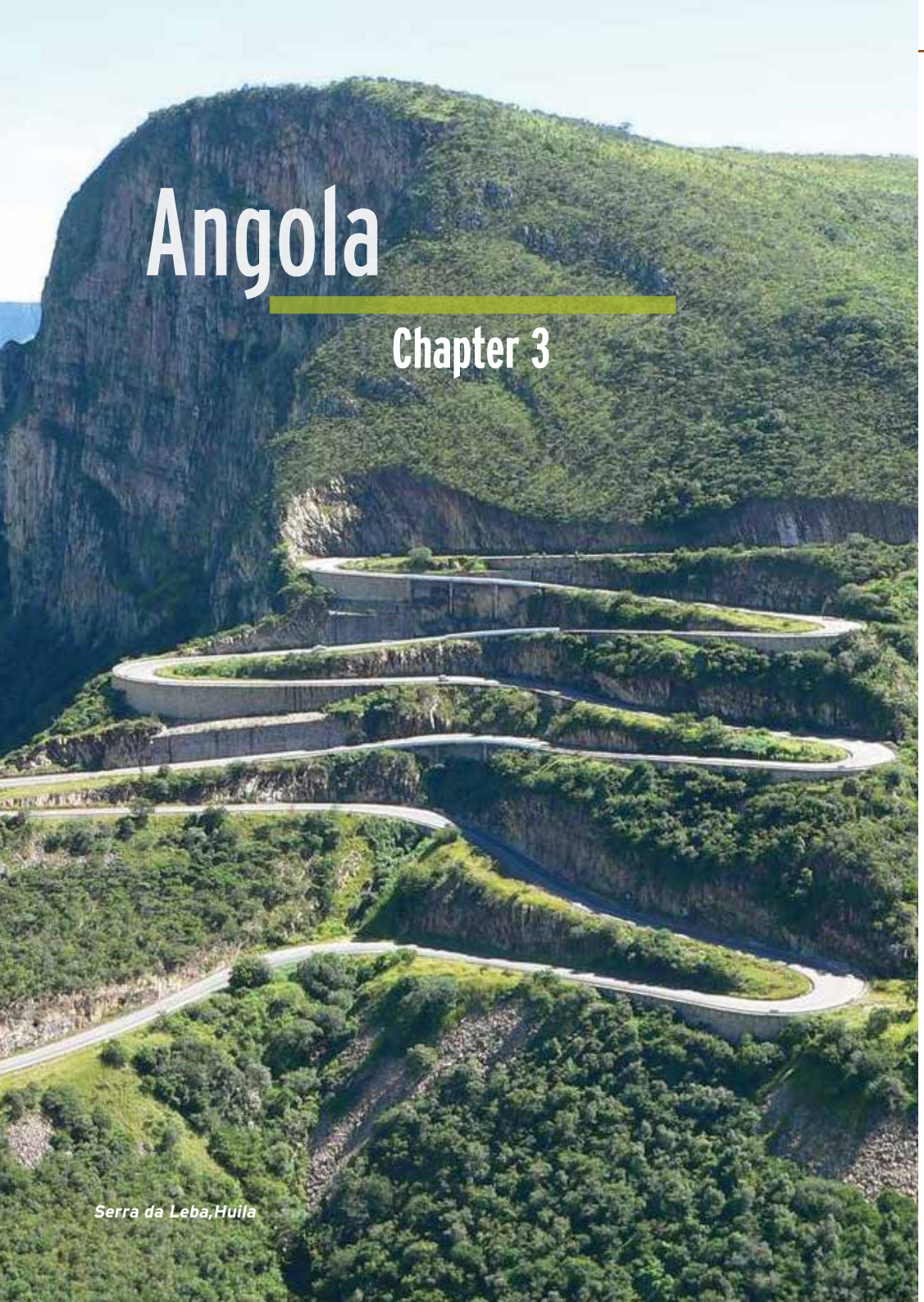
Given its role as an intermediary in the allocation of capital for development, the financial sector has a major role in advancing sustainable development. At an operational level, the development of effective environmental risk assessment and management policies and procedures will assist in shaping development, rather than preventing development from taking place, as perceived by many within the financial sector. Increasingly, international financial institutions are moving beyond traditional environmental risk assessment practices or compliance to embrace an integrated approach to sustainability. They appreciate that it is not only the financial markets and political developments that direct their business operations, but also environmental and social issues. The sustainability approach, which by its nature is integrated, anticipates long-term opportunities and risks.

This Handbook aims to facilitate the review of one of the main sources of environmental risk to the financial sector – the environmental legislative and regulatory requirements applicable to the project. It aims to provide those tasked with the responsibility of project appraisals with information on legislative requirements for environmental assessments in the SADC member countries. The overall goal of this Handbook is to ensure full compliance with the environmental assessment and related statutory requirements in support of sustainable development.

Acronyms

AfDB	African Development Bank
DBSA	Development Bank of Southern Africa
DRC	Democratic Republic of Congo
IFC	International Finance Corporation
SADC	Southern African Development Community

Northern Cape province: The water canal and vineyards in Keimoes, South Africa



Angola

Chapter 3

Serra da Leba,Huila

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Angola

3.1 Constitutional requirements for environmental protection in Angola

First signed into law in 1992, the Constitution of the Republic of Angola (Lei Constitucional da República de Angola) was replaced in 2010 and provides the basis for the Environment Framework Law through Article 39.

Article 39 (Environmental rights):

1. Everyone has the right to live in a healthy and unpolluted environment and the duty to defend and preserve it.
2. The state shall take the requisite measures to protect the environment and species of flora and fauna throughout the national territory, maintain the ecological balance, ensure the correct location of economic activities and the rational development and use of all natural resources, within the context of sustainable development, respect for the rights of future generations and the preservation of species.
3. Acts that endanger or damage conservation of the environment shall be punishable by law.[1]

In addition, *Article 90(e)* reads that the state shall promote social development by 'ensuring that all citizens enjoy the benefits resulting from collective efforts in terms of development, specifically with regard to quantitative and qualitative improvements to standards of living.'

The above constitutional Articles are extremely important for the achieve-ment of sustainable development – a concept implying improvements in the quality of life of people as well as their environment. Indeed, the Articles are concerned with the conservation and protection of natural resources, biodiversity and a healthy environment, with a view to maintaining the natural ecological balance and meeting basic human needs.

3.2 Institutional and administrative structure

3.2.1 Ministry of Environment

In 1993, the National Secretariat for the Environment was established, which became, in 1997, the Ministry for the Environment. Over the years, the name of this Ministry has changed several times, but it is currently known as the Ministry of Environment.

1 Republic of Angola, 2010. *Constitution of the Republic of Angola.* Luanda: Government of Angola.

The Ministry is responsible for the development and coordination of the country's environmental policy and for implementing the National Environment Management Programme (Programa Nacional de Gestão Ambiental (PNGA)) (see section 3.3.1). As the primary authority responsible for the implementation of the Environment Framework Law, No. 5/98, the Environmental Licensing Law, No. 59/07, and all associated Regulations, the Ministry is also responsible for the review and regulation of environmental impact assessments (EIAs). Depending on the type of project to be developed, the EIA report should also be approved by the appropriate line ministry. This ensures that the EIA not only addresses the requirements of the Environment Framework Law and the Decree on Environmental Impact Assessment, but also relevant sectoral legislation.

3.2.2 National Directorate for the Prevention and Evaluation of Environmental Impacts

Responsibility for EIA falls under the National Directorate for the Prevention and Evaluation of Environmental Impacts (Direcção Nacional de Prevenção e Avaliação de Impactes Ambientais), which, among other things, is responsible for reviewing and commenting on draft EIA reports.

The granting of an Environmental Licence (see section 3.3.7) for a proposed project is based on the results and recommendations of the EIA for that project. If required, the Ministry of Environment invites different institutions and stakeholders to give comments and make suggestions on the final report. Although there are efforts to identify partners for this process, the Ministry currently retains full control of the EIA process, and there is no decentralisation of decision-making to lower government levels.

3.2.3 Intersectoral cooperation

Cooperation between the Ministry of Environment and other ministries is evident from the well-established Multi-Sectoral Commission dealing with environmental matters, which has representation from over 12 different ministries and three environmental non-governmental organisations, as well as a number of environmental experts. However, there is a need to strengthen and improve this cooperation in a way that effectively addresses several challenges, such as onerous bureaucratic processes, insufficient skills, and a lack of continuity.

Recognising the potential negative impacts of oil extraction, and in response to this rapidly growing industry in Angola, Decree 39/00 on Environmental Protection for the Oil Industry (Protecção Ambiental para a Indústria Petrolífera) (was gazetted in October 2000. It regulates environmental practices in the oil industry in Angolan marine and terrestrial territory.

3.3 Policy and legal framework for EIA

The sustainable use of the environment is recognised as a fundamental dimension of sustainable development. The government's environmental strategies, policy framework and management approaches and priorities are spelled out in two major documents – the PNGA and the National Environmental Strategy (Estratégia Nacional do Ambiente (ENA)). Responsibility for formulating and implementing environmental policies and programmes and for environmental management lies with the Ministry of Environment. This includes the promotion of a policy to support environmental education processes within the formal and informal education sectors.[2]

3.3.1 National Environmental Management Programme

The Programme, PGNA, is seen as an important instrument for achieving sustainable development. The Ministry of Environment finalised it in 2009, with assistance from the United Nations Development Programme (UNDP). The PNGA emphasises the need for an environmental management strategy to protect the environment, even though most of Angola's natural resources are still largely intact.

Importantly, the Environment Framework Law recognises that the implementation of the PNGA should be the responsibility of all sectors of government whose activities may have an influence on the environment, all private individuals and organisations that make use of natural resources, as well as those individuals who may use resources unsustainably and cause pollution.[3]

The PNGA has five strategic subprogrammes, defined as:

1. Promotion of intersectoral coordination;
2. Protection of biodiversity, flora and terrestrial and marine fauna;
3. Ecosystem rehabilitation and protection;
4. Environmental management; and
5. Environmental education, information and awareness.

A series of themed papers was published in draft in June 2005. Of these development plans, the Strategy to Combat Poverty has been the only plan available for review.[4]

3.3.2 National Environmental Strategy

The Strategy, ENA, is a guiding framework closely related to the PNGA, which aims to identify the main environmental problems in Angola and address them in order to achieve sustainable development goals.[5] The ENA is geared to meet Angola's needs but also reflects the goals and objectives of the United Nations Conference on Environment and Development.[6] It is seen by some as Angola's 'Agenda 21'.

3.3.3 Other relevant policies

Angola 2025: Long-Term Strategy (Estratégia de Longo Prazo)

This strategy document reviews the significant challenges in Angola (very low human development, weak economic situation, institutional instability, inadequate health and education services, regional inequality, etc.) and establishes strategic options up to 2025. The plan considers the possible growth of various sectors and the main activities to realise this growth. It is being revised to include stakeholder aspirations.[7]

Strategy to Combat Poverty (2003)

The government has developed a strategy to combat poverty, following an ongoing process of reconstruction and national development. The overall objective is to improve the conditions of Angolan citizens, in particular those who are vulnerable, by motivating them to participate actively in the socio-economic development process.[8]

National Biodiversity Strategy and Action Plan (2006)

The government approved this Strategy (Resolution No. 42/06 of 26 July 2006) to guarantee the conservation and sustainable use of biological diversity components that enable the fair and equitable sharing of the benefits of the use of biological resources. Its objective is to incorporate measures for the conservation and sustainable use of biological diversity and the fair and equitable sharing of biological resources into development policies and programmes for the benefit of all Angolans.[9]

3.3.4 Environment Framework Law

When a new State Secretariat for the Environment was established in the early 1990s, it developed new strategies and policy approaches, leading to the formulation of the 1998 Environment Framework Law (Lei de Bases do Ambiente), No. 5/98 of 19 June 1998. This Act is based on Article 39 of the Angolan Constitutional Law (as amended) (see section 3.1).[10]

2 Russo, V, Roque, P & Krugman, H, 2003. *Country Chapter: Angola.* In: SAIEA (Southern African Institute for Environmental Assessment), *EIA in southern Africa.* Windhoek: SAIEA, pp. 25–43.
3 Article 6 of the Environment Framework Act of 1998.
4 ERM, 2009. *Draft scoping report for the Baynes Hydropower Project*. Chapter 2. Unpublished report.
5 Ministério das Pescas e Ambiente, 2000. *Estratégia Nacional do Ambiente (ENA) – Environmental National Strategy, Draft Document*. Unpublished report.
6 UNCED (United Nations Conference on Environment and Development), 1992. *Agenda 21.* Rio de Janeiro: UNCED.
7 ERM, 2009.
8 ERM, 2009.
9 ERM, 2009.
10 Russo et al., 2003.

The Law provides the framework for all environmental legislation and regulations in Angola. It gives the definitions of important concepts, such as the protection, preservation and conservation of the environment, the promotion of quality of life, and the use of natural resources. The Law incorporates the main international sustainable development declarations and agendas (e.g. Agenda 21), and establishes citizens' rights and responsibilities.

Article 14 allows for the establishment of environmental protection areas and the setting of rules for those areas, including the identification of activities that would be prohibited or permitted in protected areas and their surroundings.

Article 16 of the Law makes provision for mandatory EIAs for all undertakings that may have an impact on the balance and wellbeing of the environment and society. Clause 2 of this Article states that the government will develop more specific legislation on EIAs. This was accomplished when the Decree on Environmental Impact Assessment was passed in July 2004. Article 17 deals with the issue of environmental licensing and Article 18 with environmental auditing. These steps are based on the guidelines provided by the World Bank.

3.3.5 Decree on Environmental Impact Assessment

The aim of the Decree on Environmental Impact Assessment (Decreto sobre Avaliação de Impacte Ambiental), No. 51/2004 of 23 July 2004, is to ensure better environmental protection, particularly in terms of human activities likely to have an impact on the environment (such as mining, civil construction and the exploration of natural resources), by:

- Providing regulations to supplement the Environment Framework Law on EIAs, in particular on the procedures and mechanisms to be used in EIAs;
- Establishing norms for conducting an EIA for public and private projects, which, due to their nature, dimension or location, might have significant environmental and social impacts; and
- Establishing which projects should be subject to an EIA, what elements are to be included in the EIA, the nature and extent of public participation, the entity responsible for compliance with these legal requirements, and the EIA monitoring process.

The term 'environment' is not defined in the EIA Decree, but the definition of environmental impact is given as the following:

> *any change to the environment, either to better or worse, especially with effects on the air, water, soil and subsoil, biodiversity, health of persons and cultural heritage, resulting directly or indirectly from human activities.*

This implies that health and cultural aspects are included, but it does not specify other social aspects, such as social cohesion, wellbeing or livelihoods.

Other important aspects of the EIA Decree include the following:

- Article 3: Provides definitions, including what is meant by environmental audit, EIA, Environmental Impact Study, public consultation, etc.;
- Article 4: Indicates which projects require an EIA and which might be exempted from an EIA, such as those aimed at national defence and security;
- Article 6: Indicates the kind of information that needs to be included in the EIA;
- Article 10: Explains the procedure for public consultation and indicates that the costs of such consultations should be covered by the project proponent;
- Article 16: Indicates what is considered an infraction of this Decree;
- Article 17: Sets out the penalties for various offences; and
- Article 22: States that environmental audits shall be conducted.

The EIA procedures set out in the Decree are described in detail in section 3.4 of this chapter.

The EIA Decree does not refer to strategic environmental assessments or assessments to be conducted for policies, plans or programmes. Article 7 of the Environment Framework Law does, however, refer to the development of a National Environmental Management Plan and its implementation.

Although none of the environmental legislation refers to transboundary impacts, Angola's active involvement in the Benguela Current Large Marine Ecosystem project, the Permanent Joint Technical Committee with Namibia, and the Okavango River Commission shows a commitment to dealing with cross-border environmental impacts.

3.3.6 Decree on Environmental Licensing

Decree No. 59/07 on Environmental Licensing came into force on 14 October 2007. This Decree provides additional legislation to supplement Decree No. 51/04 on EIAs by providing guidance on topics such as: which project should be subject to an EIA; what elements are to be included in an Environmental Impact Study; the nature and extent of public participation; the entity responsible for compliance with these legal requirements; and the EIA monitoring process. It also indicates that only Angolan-registered environmental companies can submit an Environmental Impact Study for approval.[11]

11 ERM, 2009.

3.3.7 Environmental Damage Regulations

Decree 194 of 2011 is titled Environmental Damage Regulations. It is applicable to all sectors, including the petroleum and mining industries. Highlights of the Regulations include the following:

- The polluter pays principle;
- Strict liability (regardless of culpability) for environmental damage;
- Powers of the regulatory authority (the Ministry of Environment) to prevent or reduce the risk of environmental injury, including requiring businesses to develop prevention programmes and make disclosures in case of an imminent threat to the environment;
- Financial guarantees being payable for remediation or compensation of environmental damage in the form of insurance policies, bank guarantees, company reserves or other mechanisms;
- Individuals and non-governmental organisations granted *locus standi* (legal standing) to pursue legal action (including class action suits) to avoid, remedy and/or obtain compensation for environmental damage; and
- Strict penalties, including fines that can reach US$100 million, as well as cancellation of Environmental Licences (www.mirandalawfirm.com).

3.3.8 Permits and licences

In terms of Chapter 2 of the Decree on Environmental Licensing, the following licences are required:

An *Environmental Licence* is required for all activities that, because of their nature, location and scale, may have a significant environmental or social impact. The Environmental Licence is issued on the basis of the findings of an EIA and is required before the issuance of any other permits or licences under other laws.[12]

An *Environmental Installation Licence* is issued by the Ministry of Environment to authorise the setting out and change of works, in accordance with the specifications contained in the project.

An *Environmental Operations Licence* is a document issued by the Ministry of Environment, which, subject to verification of compliance with all the requirements of the Environmental Impact Study, permits an undertaking or activity to operate and allows for the integration of the activity into the area of interest.

3.3.9 Offences and penalties

In terms of Article 26 of the Decree on Environmental Licensing, a person who constructs, implements or alters any installation without an Environmental Installation Licence, or anyone who alters a system of production without the relevant licence, will be liable of an offence and subject to a fine. The fines are based on the value of the project, as follows:

Value of the project	Fine
Less than Kz90 000	10%
More than Kz90 000 and less than Kz500 000	7%
More than Kz500 000 and less than Kz1 000 000	5%
More than Kz1 000 000	3%

In addition, the competent authority can suspend, embargo or interdict the operation or activity, and notify the public ministry and the line ministry accordingly (Article 27).

Article 16 of the EIA Decree specifies the following as offences that are liable to a fine ranging between US$1000 and US$1 million, depending on the seriousness of the case:

- The installation, start-up or extension of an activity in breach of the EIA Decree and any related Regulations;
- Obstruction or non-collaboration with the environmental auditing team, as per Article 22(5);
- Breach of the conditions of the Environmental Licence; and
- Non-compliance with the recommendations of the Environmental Impact Study.

In addition, offenders may have their machinery or equipment seized, have their operations closed down, and/or be prevented from tendering for government contracts (Article 17).

Decree No. 1/10 on Environmental Audits specifies that penalties payable for offences are a minimum of US$1000 and a maximum of US$1 000 000 for any of the following:

- Obstruction of or failure to cooperate with registered environmental auditors;
- Non-compliance with the recommendations of a previous audit;
- Working without complying with environmental regulations; and
- Acting as an environmental auditor without being registered.

3.3.10 Fees

The developer is responsible for all professional fees, costs and expenses associated with the preparation of an Environmental Impact Study. Decree No. 96 of 2009 was implemented in October 2009, issued jointly by the

12 Article 17 of the Environment Framework Law.

Ministry of Finance and the Ministry of Environment, and sets out fees payable for the issuing of Environmental Licences. For projects with value in excess of US$1.5 million, the Installation Licence (see section 3.3.8) fee is 0.18% of the investment value and the Operational Licence is 0.3% of the investment value.

3.3.11 Guidelines

EIA guidelines are currently being developed to assist developers and practitioners with the EIA process in Angola. Most major development projects have used the World Bank guidelines in order to fulfil country and lender-specific requirements.

3.3.12 Environmental standards

Article 19 of the Environment Framework Law recognises the seriousness of pollution as a by-product of economic development and provides for strict measures to eliminate or minimise its effects. Clause 2 of Article 19 allows for the promulgation of pollution control legislation to address the production, discharge, deposit, transport and management of gaseous, liquid and solid pollutants. Clause 3 states that the government will establish urban and non-urban environmental quality standards for the burning of fossil fuels, and Clause 4 prohibits the importation of hazardous waste, except through specific legislation approved by the National Assembly.

However, to date, there is no specific legislation on pollution control, and environmental standards for Angola are still being developed. In the meantime, the standards established by the World Bank and the World Health Organization are used. Most foreign companies or aid agencies apply these standards or the pollution control standards of their home countries.

3.3.13 Certification of consultants

In terms of Article 29 of the Decree on Environmental Licensing, only specialists and mid-level or senior technical staff registered in terms of the Decree may perform EIAs in Angola. Individual environmental consultants, environmental consulting companies and consortia may register with the Ministry of Environment. A certificate of registration will be issued within 30 days of the date of receipt of the application. In order to register, the individual applicant must submit the following, in terms of Article 30:

- Name, nationality, profession, office location, residential address and tax number;
- Academic and professional registration certificates;
- Curriculum vitae listing environmental consulting experience and knowledge of the environmental situation in Angola; and
- A declaration that s/he is not an employee of or contractor to the competent authority.

In the case of joint ventures and partnerships, the following must be submitted:

- Relevant information about their consultants, in terms of numbers of professional staff;
- A compilation of studies already completed; and
- A commercial registration certificate and tax number.

In case of doubt, the competent authority reserves the right to demand proof of the information supplied by the interested party, as well as of other additional information.

In terms of Article 31 of the Decree on Environmental Licensing, foreign consulting companies or consortia intending to perform consulting work in Angola are compelled to associate themselves with Angolan consultants or consulting companies formed under Angolan law.

3.4 EIA procedural framework in Angola

The Framework Environment Law states that one of the principal instruments for environmental management is the EIA, which has the primary objective of determining the effects of public and private projects on the environment and which thus allows fair and balanced decision-making by the authorities.[13] The EIA procedures are set out in the subsections below.

3.4.1 Screening

The Environment Framework Law establishes a broad rationale for the kinds of projects that are subject to an EIA, stating that an EIA is compulsory when actions 'interfere with the social and environmental equilibrium and harmony'.[14] More detailed criteria are spelled out in the EIA Decree, which requires EIAs for all public or private projects mentioned in the Annex to the Decree, with the exception of projects the government deems of vital interest to national defence or national security.[15]

The activities listed in the Annex to the EIA Decree are categorised according to the following sectors:

- Agriculture, fisheries and forestry;
- Extractive industries, such as petroleum, mining and dredging;
- Energy industry;
- Glass industry;
- Chemical industry;
- Infrastructure projects; and
- Other projects.

The full list of projects is provided in Appendix 3-1 of this chapter.

13 Adapted from the Preamble to the EIA Decree, No. 51/04.
14 Article 16(1) of the Environment Framework Law.
15 Article 4(3) of the EIA Decree, No. 51/04.

3.4.2 Scoping

No separately defined scoping phase is required in Angola.

3.4.3 Environmental Impact Study

The EIA Decree specifies the *activities* that are required during the EIA process, as well as the *contents* of the EIA report. The activities required as part of the Environmental Impact Study are set out in Articles 6 and 7 of the EIA Decree. The EIA consultants must give due consideration to:

- A thorough analysis of the baseline conditions before development, including the interactions within and between the physical, biological and socio-economic environments;
- A full description of the project;
- An evaluation of all technological alternatives and alternative locations for the project and a comparison of these to the no-go option;
- A systematic identification and assessment of the environmental impacts generated in each project phase (design, construction, operation and decommissioning), including the identification and prediction of the magnitude and scale of impacts, detailing:
  - The positive and negative impacts, direct and indirect, immediate, medium and long-term, temporary and permanent;
  - The degree to which the impacts are reversible;
  - The cumulative and synergistic properties of impacts; and
  - The distribution of the social burden and benefits;
- The measures required to mitigate negative impacts;
- A definition of the boundaries of the area that may directly or indirectly be affected by the project (sphere of influence), considering human population, wildlife and the hydrographic basin in which the project is located;
- All government plans and programmes proposed and being implemented in the project area of influence, and the compatibility of the project with these;
- A monitoring and auditing programme; and
- Any other information that may be relevant to the project, such as international protocols.

The Environment Framework Law (Article 16) and the EIA Decree (Article 9) specify the following contents of an EIA report:

- A non-technical summary of the project;
- A description of the planned activities, including all technological alternatives as well as the no-go option;
- A general description of the state of the environment of the chosen locations for the project;
- Summary of opinions and criticisms resulting from public consultations (see section 3.4.4 below);
- A description of possible environmental and social changes caused by the project;
- An indication of the measures envisaged to eliminate or minimise negative social and environmental effects; and
- An indication of the systems envisaged for controlling and monitoring the activity.

3.4.4 Public consultation

All projects listed in the Annex to the EIA Decree (see Appendix 3-1) must be subject to a public consultation programme organised by the Ministry of Environment, as prescribed in Article 10 of the EIA Decree. The public consultation process, to be undertaken by the responsible ministry, comprises the following steps:

- Release of the non-technical summary of the EIA report to the interested and affected parties (as defined in Article 3 of the Decree);
- Consideration and appraisal of all presentations and comments relating to the proposed project; and
- Compilation of a brief report within *eight days* of the completion of the consultation period, specifying the steps taken, the level of public participation, and the conclusions that may be drawn.

The consultation process must take place over a period of *five to ten days* and the costs must be borne by the developer.

3.4.5 Review of EIA reports

Once completed, the EIA reports and any supporting documents must be sent to the relevant line ministry (see Figure 3.1). Within *five days* of receiving these documents, the line ministry must forward such documentation to the Ministry of Environment. The review is conducted by the Directorate for the Prevention and Evaluation of Environmental Impacts and the line ministry relevant to the project in question. For projects in urban areas or that affect human settlements, the minister responsible for planning should also be included in the review process.

Within *30 days* from the date of receipt of the documents, the EIA Directorate in the Ministry of Environment must evaluate the EIA report. If a favourable opinion is received, the Ministry of Environment shall issue an Environmental Licence. If there is insufficient information in the EIA report, the Ministry of Environment may request more information before it can make a decision. If, however, a negative opinion is received from the Directorate, the project cannot be authorised or licenced. The final decision must be made public.

3.4.6 Appeals

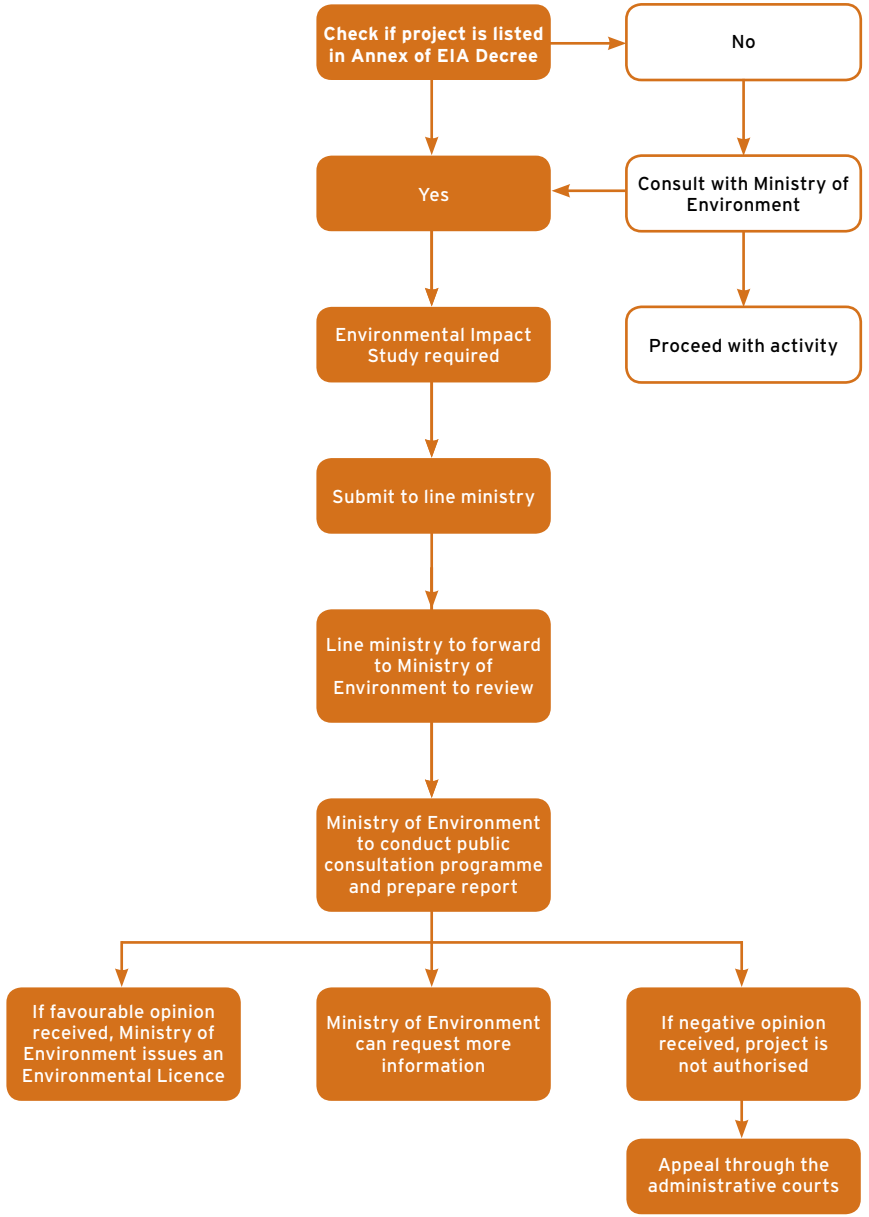
An appeal may be brought against the decision of the Minister through the administrative courts.

3.4.7 Environmental monitoring and audits

According to Article 22 of the EIA Decree, the competent environmental authority (in this case the Ministry of Environment) is responsible for monitoring the implementation of the EIA in specific projects. However, in practice, there is often no follow-up from the Ministry or its Directorate because of a lack of available resources and professional capacity. Consequently, it is rare for mitigation measures to be taken or penalties imposed on projects that do not comply with EIA rules and recommendations or which otherwise have a negative impact on the environment. Currently, most monitoring activities are carried out by the project implementers or in collaboration with Angolan institutes, such as the Natural History Museum and the Agostinho Neto University's Faculty of Science.

Decree No. 1/10 on Environmental Audits, gazetted in January 2010, establishes terms under which environmental audits take place. Article 18 of the Environment Framework Law states that any activities that take place without the necessary environmental and social mitigation, and from which environmental damage is observed, are subject to environmental auditing. The Decree explains types of audits that may be conducted, and that they can be conducted by authorised public or private bodies. It makes provision for the registration and accreditation of environmental auditors. The costs of the audits are carried by the entity being audited.

Figure 3.1: EIA process diagram



3.5 Other relevant environmental legislation in Angola

The Environment Framework Law is complemented by various pieces of sectoral legislation (see Table 3.1).

Table 3.1: Other potentially applicable sectoral legislation

Legislation	Key elements	Responsible authority
Fisheries		
Fisheries Act (Lei das Pescas), No. 20/92 of 14 August 1992	• The Act regulates fishing activity in marine and interior waters. • It establishes the principle that fisheries resources are for public use and stipulates quotas consistent with the conservation of marine resources, adjusted according to available fishing potential and season. • It regulates the fishing industry with the aim of achieving sustainable development.	Ministry of Fisheries
Biological and Aquatic Resources Act, No. 6-A/04 of 8 October 2004	• This innovative Act is very comprehensive and emphasises the need for policies aimed at preserving and regenerating biological and aquatic resources. It is also a mechanism for the harmonisation of different legislation on marine resources, particularly on fisheries and aquaculture activities. • The Ministry has to be consulted before the implementation of any project pertaining to the exploitation of natural resources within inland waters. • The Act considers it a crime to discharge any objects or substances that are likely to cause serious damage to biological resources. It further states that any individual or collective person that causes damage to the environment has to repair the damage and indemnify the state. • The Act was developed as part of the government's policies on environmental protection and the sustainable use of natural resources. It draws on the Constitution and the Environment Framework Law. The Act also considers international instruments such as the United Nations Law of the Sea, the Convention on Biological Diversity, and the Southern African Development Community (SADC) Protocol on Fisheries. • The Act considers biological and aquatic resources as important food sources for subsistence, economic activities and renewable resources. • Title I deals with general dispositions; Title II deals with measures for the protection of biological resources and marine environment; Title III focuses on vessels, procedures for processing and aquaculture; Title IV elaborates on the institutions and services for biological water resources control; Title V deals with responsibility; and Title VI concludes with final and transitory dispositions. • The most important part of the Act in relation to environmental protection is Title II, which deals in its five chapters with measures for the protection of biological aquatic resources and the marine environment. • Moreover, an enabling legislation of the above Act was approved, focusing on the rules of fishing concessions and licensing (Decree No. 14/05 of May 2005).	Ministry of Fisheries
Conservation		
Various decrees from the colonial period Decree on Soil, Flora and Fauna Protection, No. 40 040 of 1955	• The first legislation on nature conservation and the establishment of protected areas for different purposes (initially for hunting and later for nature conservation) was issued on 20 January 1955 through Decree No. 40 040 (published in the Official Bulletin on 9 February 1955). This Decree covered aspects related to soil, fauna and flora protection, conservation and use of game, and the establishment of national parks, nature reserves and controlled hunting areas. It pioneered the establishment of the Nature Conservation Council (Conselho de Proteção à Natureza) to control protected areas and develop enabling legislation. • This legislation included the Hunting Regulation (Regulamento de Caça), Decree No. 2873 of 11 December 1957, Forestry Regulation (Regulamento Florestal), Decree No. 44 531, and National Parks Regulation (Regulamento de Parques Nacionais), Decree No. 10 375 of 15 October 1958. • In its annexes, Decree No. 40 040 included a list of mammal and bird species whose hunting was considered illegal. • Decree No. 43/77 of 5 May 1977 approved the structure of the Ministry of Agriculture and defined five different categories for protected areas, namely national parks, strict nature reserves, partial reserves, regional nature parks and special reserves. This differentiation of categories does not include issues such as rural community use of wildlife or the conservation on heritage sites and important monuments. This legislation is currently being reviewed through a Food and Agriculture Organization project known as Participatory Formulation of Policy and Legislation on Forest, Wildlife and Protected Areas.	Ministry of Agriculture
Mining		
Mining Code (Código Mineiro), 23 September 2011	• The Mining Code of 2011 repeals a number of old laws relating to mining, such as the Law of Mines (Lei das Minas), No. 27 of 1979, the Geological and Mining Activities Law, No. 1 of 1992, and the Diamond Act, No. 16 of 1994. The new Mining Code amalgamated these (and other laws) into a single set of regulations, with the intention of providing easier access to applicable laws and harmonising, to the extent possible, the rules and procedures that apply to particular activities. • The Code applies to all mining activities (such as prospecting, mining and commercialisation) that take place in Angola and all maritime areas that are subject to the Angolan jurisdiction. It does not apply to hydrocarbons, whether in liquid or gas form. • The Code further provides that, in consideration for granting mining rights, the Angolan state shall be entitled to compensation, in the form of a participation of not less than 10% in the company that conducts the activities and/or allocations in kind of the minerals to be extracted.	Ministry of Geology and Mines

Table 3.1: Other potentially applicable sectoral legislation *(continued)*

Legislation	Key elements	Responsible authority
Mining *(continued)*	• The Code contains specific (broadly speaking stricter) rules for mining activities that involve strategic minerals. Gold, diamonds and radioactive minerals are currently designated as strategic minerals, although the Angolan Executive can designate others. • All mineral resources that can be found in Angola and within the maritime boundary of Angola are deemed the property of the Angolan state. However, the minerals explored and extracted by holders of mining rights are the property of these parties in accordance with the terms of their concession. • Mining rights can be granted for the following activities: – Prospecting for specific minerals; – Mining of specific minerals; – Prospecting and exploitation of minerals for civil construction; and – Artisanal mining. • The Mining Code imposes a number of obligations on the holders of mining rights regarding the exercise of their rights. These include obligations in the areas of: – Hygiene, health, security and training; – Environmental protection; – Use of soil; and – Use of explosives.[16]	
Land		
Land Use Planning and Urban Development Act, No. 3/04 of 25 June 2004	• After independence, issues relating to land use planning and urban management were not considered a priority in terms of the development of new legislation. Most of the legislation on this issue was inherited from the colonial period and is thus outdated and inefficient. The existing legislation on territory, town and country planning and urban issues is fragmented and not in line with scientific and technological progress. • In addition, the growth of the main cities, particularly from urbanisation in the coastal areas as result of the war and migration in search of urban opportunities, has exacerbated problems in the management of urban areas, leading to overcrowded and dilapidated cities. The lack of integrated and coordinated plans to respond to the growing number of people, which is associated with the inefficient development and growth of the cities, has motivated the development of this law. • The Act adopts a concept of integrated planning, which not only includes socio-economic aspects but also attempts to create synergies in the relationship between the city and the countryside. It calls for the establishment of a decentralised system to coordinate land use planning.	Ministry of Environment Ministry of Agriculture
Land Law, No. 9/04 of 9 November 2004	• This Law deems land the property of the state and proposes the following multiple uses for the land: – A shelter and home for the inhabitants of Angola, which implies the existence of an appropriate urban planning system; – A source of natural resources that can be used for mining, agriculture, forestry and land planning; and – A support for economic, agricultural and industrial activities. • It contains a number of aspects related to the environment, which are important to foster sustainable development and the improved use of the soil and natural resources. The Law refers to various other pieces of environmental legislation, with particular emphasis on the Environment Framework Law. The other legislation is used to support mechanisms for the implementation and enforcement of certain Articles and clauses of the Law. • It presents two land classifications, namely urban land (areas for the construction of buildings) and rural land (areas for agriculture, raising livestock, forestry and mining). The ministry dealing with land planning and environment is the government institution that declares such land, based on a proposal from other government entities dealing with similar issues. This is the case for the establishment of mining and oil schemes and the industrial sector. The government decides on the establishment of protected areas (total and partial reserves) for specific purposes, such as environmental protection, national security, preservation of monuments, and historical sites. These reserves include both coastal areas (e.g. territorial sea, contiguous zone, economic exclusive zone, islands and estuaries) and land areas (e.g. roads, inland borders, airports and ports, and military bases).	Ministry of Environment
Water		
Water Law (Lei das Águas), No. 6/02 of 21 June 2002	• This Act states the priorities for the use of surface water resources in Angola. It enables the State Secretariat to ensure environmental protection and conservation of areas of partial protection. It provides a list of water management principles, particularly the harmonisation of the water management policy with land use planning. The Act calls for the development of a General Plan for the Development and Use of Water Resources in Basins. • It further notes that water resources are state property. Article 6 gives the right to the organ of state responsible for water affairs to ensure the preservation and conservation of areas of partial protection.	State Secretariat for Water

16 www.cliffordchance.com

Table 3.1: Other potentially applicable sectoral legislation *(continued)*

Legislation	Key elements	Responsible authority
Water *(continued)*	• The Act describes a number of principles of water management that the government should put into practice. These include: the right of individuals and entities to access water; integrated management of water resources; institutional coordination and community participation; the harmonisation of the water management policy with land use planning and environmental policies; water as a renewable resource for people; and the relationship between pollution and social and financial issues. • It encourages the development of a new administrative policy for the water sector, which includes a decentralised system of control over the use of water, as well as for the protection of water resources and the environment. In the implementation of such a policy, the government aims to achieve a number of objectives, namely to ensure access to water resources; ensure a continuous balance between the availability of water resources and demand; promote research activities and the sustainable use of existent water resources; ensure proper sewage systems; and regulate the discharge of domestic effluents.	
Law on Internal Waters, Ocean and Exclusive Economic Zone (Lei sobre águas interiores, oceanos e zona económica exclusiva), No. 21/92 of 28 August 1992	• This Law regulates control over internal waters and lakes. • It also regulates the use of natural resources, the protection of the marine environment, the promotion of scientific marine research, and the use of artificial structures.	State Secretariat for Water
Local authorities		
Local Municipalities Act (Lei das Autoridades Locais), No. 17/99 of 1999	• The Act establishes that local governments are responsible for the promotion of development, basic sanitation, environmental protection and land management.	Provincial and local authorities
Investment		
Foreign Investment Act (Lei do Investimento Estrangeiro), No. 15/94 of 23 September 1994	• The Act plays an important role in setting up mechanisms to enforce regulations on environmental protection, sanitation and the protection and security of workers against occupational diseases and accidents at work.	Ministry of Planning
Petroleum		
Oil Activities Decree (Decreto Lei das Actividades Petrolíferas), No. 39/00 of 10 October 2000	• The Decree states the need to regulate oil exploration activities in a way that ensures sustainable development. • It recognises the important role of oil in the Angolan economy and its impact on the environment, and calls for the compulsory implementation of EIAs for any offshore or onshore project.	Ministry of Petroleum
Petroleum Activities Law, No. 10/04 of 12 November 2004 Including: Petroleum Activities Waste Management, Removal and Disposal, Executive Decree No. 8/05; Petroleum Activities Spill Notification Procedures, Executive Decree No. 11/05; Management of Operational Discharge during Petroleum Activities, Executive Decree No. 12/05	• This Act includes principles of economic policies, particularly for the protection of national interests, the promotion of the workforce, the valuation of minerals, and environmental protection. • It establishes the exclusivity principle for the national petroleum concessionary Sonangol, by giving Sonangol the right to use natural resources through the establishment of partnerships with other foreign companies. • Article 7/2 states that all petroleum operations must be conducted carefully, by considering the safety of people and infrastructure as well as the protection of the environment and the conservation of nature. Furthermore, Article 9/3 notes that rights for petroleum operations can only be granted if measures are in place to ensure the sovereignty of the country, safety, environmental protection, research and the management and preservation of natural resources, including the living and non-living aquatic biological resources. • Article 24 on Environmental Protection indicates that all companies involved in petroleum operations, including Sonangol, have to implement appropriate measures to ensure environmental protection and preservation. This includes health, water, soil and subsoil, air, biodiversity preservation, flora and fauna, ecosystems, landscapes, atmosphere and cultural, archaeological and aesthetic values. In addition, Article 24/2 requires plans on environmental preservation, EIA plans, rehabilitation plans and environmental audits to be submitted to the competent authorities within the established timeframes.	
Decree on Environmental Protection for Petroleum Activities, No. 39/00 of 10 October 2000	• This Decree, which is administered by the Ministry of Petroleum, aims at protecting the environment from petroleum exploration and production activities. It defines the environment as including, inter alia, fauna, flora, soil, water, landscape, cultural values, atmosphere and the like, and is applicable to activities both off- and onshore (Article 3). • In regulating petroleum activities in a way that ensures sustainable development, the Decree recognises the impact of these activities on the natural environment. It also calls for compulsory implementation of EIAs as an important instrument for ensuring environmental protection in any project. It provides details on the EIA process, with an emphasis on the procedure for obtaining an Environmental Licence from the Ministry of Urbanisation and Environment (Article 6). • The government is developing complementary legislation to this Decree, including on the management of operational discharges; the management, collection and treatment of waste; and the procedures for the notification of oil spills.	Ministry of Petroleum

Table 3.1: Other potentially applicable sectoral legislation *(continued)*

Legislation	Key elements	Responsible authority
Petroleum ***(continued)***	• Other legislation for the petroleum industry include an Executive Decree on the procedures for waste management (No. 8/05 of 5 January 2005), an Executive Decree on the procedures for oil spill notification (No. 11/05 of 12 January 2005), and an Executive Decree on procedures for the management of operational discharges (No. 12/05 of 12 January 2005)	

Source: Adapted from *Diário da República*, various issues, 1979–1999, documents from the Ministry of Environment and www.angolaenvironmentalconsulting.com/legsupenv.html

Appendix 3-1

List of projects that require an EIA

The projects that require an EIA, as prescribed in Article 4 of the EIA Decree, are listed in the Annex to that Decree, as follows:

1. Agriculture, fisheries and forestry

a) Projects for the restructuring of rural land holdings;
b) Projects for the use of uncultivated land or semi-natural areas for intensive agricultural purposes;
c) Water management projects for agriculture;
d) Initial afforestation or reforestation projects that may cause negative ecological changes;
e) Projects for industrial exploitation of forestry resources;
f) Projects for the installation of large-scale industrial fish-farming units or projects that release waste into watercourses;
g) Reclamation of land from the sea; and
h) Irrigation projects.

2. Extractive industry

a) Industrial and agrochemical complexes and units (petrochemicals, iron works, chloro-chemicals, distilleries, coal, and use and operation of water resources);
b) Crude oil refineries, oil pipelines, gas pipelines, mineral transport lines, sewer mains and sewage outfalls;
c) Deep drillings, except for drillings to study soil stability, namely:
   i. Geothermal drillings;
   ii. Drillings for water supplies; and
   iii. Extraction of minerals other than metalliferous and energy-producing minerals on a large scale;
d) Production of petroleum;
e) Production of natural gas;
f) Extraction of metallic minerals;
g) Opencast mining of minerals, other than metalliferous and energy-producing minerals;
h) Extraction of coal and lignite in underground and opencast mining;
i) Installations for the manufacture of cement;
j) Extraction of fossil fuels (petroleum, shale and coal);
k) Large-scale ore extraction;
l) Installation and location of slag heaps and dumps;
m) Installation and location of refuse sedimentation basins;

n) Installation and location of storage for explosive substances for mining;
o) Installation of mineral transport lines and gas pipelines;
p) Pipeline installations;
q) Dams and other installations for river diversions;
r) Installation for storage of scrap from machinery and mining plant; and
s) Other specific mining installations.

3. Energy industry

a) Industrial installations for carrying gas, steam and hot water, and transmission of electrical energy by overhead cables;
b) Surface storage of natural gas;
c) Underground storage of combustible gases;
d) Surface storage of fossil fuels;
e) Industrial briquetting of coal and lignite;
f) Installations for the production and enrichment of nuclear fuels;
g) Installations for the reprocessing of irradiated nuclear fuels;
h) Installations for the collection and processing of radioactive waste;
i) Installations for hydroelectric energy production, with capacity greater than 1000 kW;
j) Power transmission lines at above 230 kV;
k) Hydraulic works for exploitation of water resources, such as dams for hydroelectric purposes, sanitation or irrigation, creation of navigable canals, irrigation, straightening of watercourses, opening of bars and river mouths, bay crossings and dykes;
l) Nuclear power stations with a capacity greater than 500 kW; and
m) Nuclear power stations generating electricity through fission of isotopes.

4. Manufacture of glass

5. Chemical industry

a) Treatment of intermediate products and production of chemicals;
b) Production of fertilisers, pesticides and pharmaceutical products, paint and varnishes, elastomers and peroxides; and
c) Storage facilities for petroleum, petrochemical and chemical products.

6. Infrastructure projects

a) Highways with two or more traffic lanes and motorways;
b) Construction of medium and long-distance railways;
c) Construction of tunnels;
d) Ports and terminals for ore, petroleum and chemical products;
e) Airports;
f) Projects for the development of industrial zones;
g) Urban development projects;

h) Construction of railways and facilities for trans-shipment between different forms of transport and parking terminals;
i) Dams and other installations to retain or store water permanently;
j) Coastal works designed to combat erosion and maritime works to alter the coastline, such as construction of dykes, piers, sea defences and other similar works, excluding the maintenance and rebuilding of such works;
k) Systems for impounding and artificially replenishing surface waters; and
l) Works transferring water resources between hydrographic basins.

7. Other projects

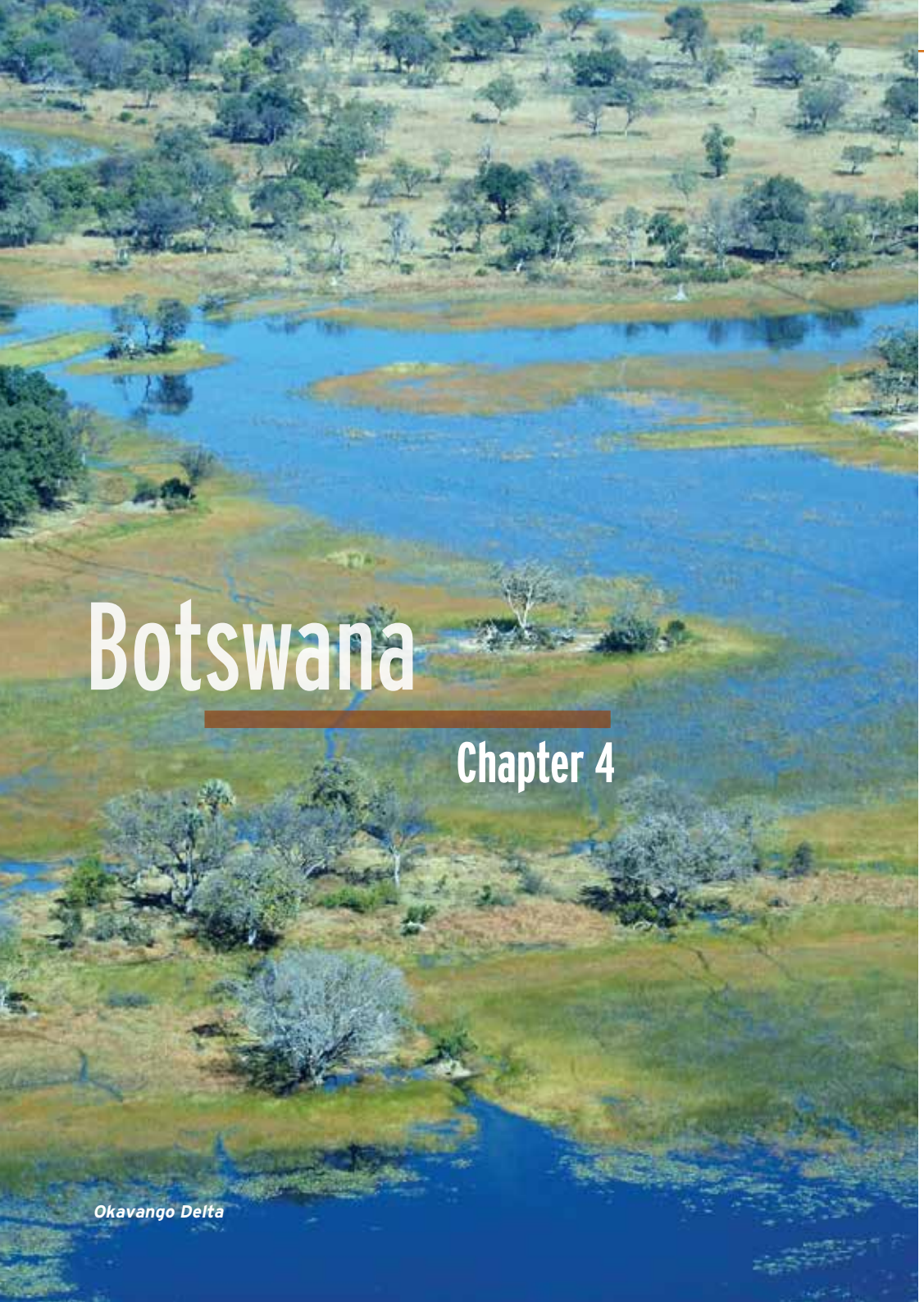
a) Permanent racing and test tracks for cars and motorcycles;
b) Installations for the disposal of industrial and domestic waste;
c) Wastewater treatment plants;
d) Sludge deposition sites;
e) Storage of scrap iron, including vehicle scrap;
f) Test benches for engines, turbines or reactors;
g) Installations for manufacture of artificial mineral fibres;
h) Manufacture, packing, loading or destruction of gunpowder and explosives;
i) Installations for the destruction of products unfit for consumption as food;
j) Landfill sites and installations for processing and final disposal of toxic or hazardous waste;
k) Construction of incinerators; and
l) Construction of cemeteries.

Acronyms

EIA	environmental impact assessment
ENA	Estratégia Nacional do Ambiente (National Environmental Strategy)
PNGA	Programa Nacional de Gestão Ambiental (National Environmental Management Programme)
SADC	Southern African Development Community
UNDP	United Nations Development Programme

Useful contacts

Department	Ministry	Website
Directorate for the Prevention and Evaluation of Environmental Impacts	Ministry of Environment	www.minam.gov.ao geral@minam.gov.ao



Botswana

Chapter 4

Okavango Delta

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Botswana

4.1 Constitutional requirements for environmental protection in Botswana

Botswana's commitment to the sustainable management of natural resources is supported by various policies and legislation as well as by Vision 2016, which states that:

> *By the year 2016, economic growth and development in Botswana will be sustainable. Renewable resources will be used at a rate that is in balance with their regeneration capacity … The wildlife of Botswana will be managed for the sustainable benefit of the local communities, and in the interests of the environment as a whole … By the year 2016, Botswana will have taken strong measures to limit pollution that would otherwise have resulted from rapid industrialisation.*[1]

However, the Constitution does not explicitly mention the right of citizens of Botswana to a clean and unpolluted environment.

Sustainable development is one of the four principles that underpin the process of developing the National Development Plans, the other three being rapid economic growth, economic independence and social justice.[2]

4.2 Institutional and administrative structure for environmental impact assessment in Botswana

4.2.1 Ministry of Environment, Wildlife and Tourism

The overall responsibility for the environment lies with the Ministry of Environment, Wildlife and Tourism. The Ministry and other organisations with portfolio responsibilities related to it also supervise the following statutory authorities (see Figure 4.1):

- Department of Environmental Affairs
- Department of Waste Management and Pollution Control
- Department of Forestry and Range Resources
- Department of Wildlife and National Parks
- Department of Tourism and the Botswana Tourism Organisation (formed via the Botswana Tourism Organisation Act, No. 14 of 2009)
- Department of Meteorology

1 Presidential Task Group, 1997. www.vision2016.co.bw
2 NCSCA (National Conservation Strategy Coordinating Agency) MFDP (Ministry of Finance and Development Planning), 2001. *Environmental Keynote Paper.* Discussion Draft.

4.2.2 Department of Environmental Affairs

The new Environmental Assessment Act of 2010 (still to be enacted) establishes the Department of Environmental Affairs (DEA) as the competent authority responsible for administering and controlling environmental impact assessment (EIA) activities in Botswana. The overall objective of the DEA is to foster sustainable development by coordinating the protection of the country's environment and the conservation of its natural resources.

More specifically, the DEA aims at:

a) Coordinating the formulation and implementation of environment-friendly policies, legislation, programmes and projects to ensure that the short, medium and long-term impacts on the natural resources and environmental capital of the country are at least neutral and at best highly beneficial;
b) Ensuring that due regard is given to environmental considerations in the National Development Planning process;
c) Providing its clients and stakeholders with sound, objective and impartial advice, guidance and coordination, covering all activities involved in the planning, design, use and management of natural resources and environmental services;
d) Acting as the Secretariat to the Environmental Affairs Council and providing all services required by the Council to enable it to function both effectively and efficiently;
e) Implementing effective strategies for the promotion of the National Policy on Natural Resources Conservation and Development and the National Conservation Strategy Action Plan throughout Botswana and for publishing its achievements with a view to changing public attitudes and perceptions about natural resource conservation for development;
f) Ensuring that the country's environment and natural resources are managed according to nationally and internationally acceptable scientific principles;
g) Coordinating environmental research and development efforts between all interested parties and initiating new research and demonstration projects where gaps exist;
h) Initiating and coordinating the drafting of a research strategy for the Department and promoting the development of a unified and consolidated environmental research strategy for the country;
i) Introducing and promoting the use of modern and appropriate technology to improve information management and establish a national environmental data storage and retrieval system;
j) Preparing and updating the *State of the Environment Review* on a regular basis;

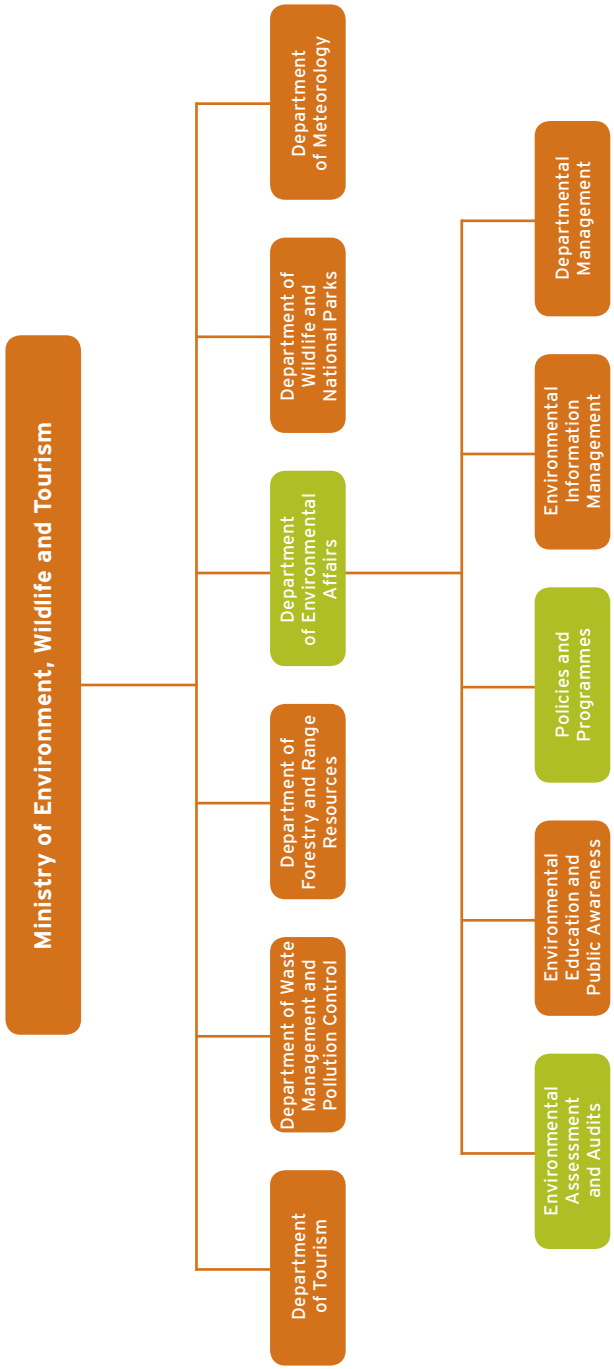


Figure 4.1: Organisational structure of the Ministry of Environment, Wildlife and Tourism (indicating the divisions within the Department of Environmental Affairs)

k) Promoting, institutionalising and coordinating an environmental education programme at all levels of Botswana society;
l) Promoting environmental education through public awareness programmes and other relevant means, and thereby helping Botswana become an environment-friendly and conscious nation;
m) Developing effective public relations services regarding Botswana's environmental and natural resources policies, legislation, programmes and projects;
n) Coordinating the fulfilment of Botswana's obligations under international environmental conventions, agreements and protocols, including acting as the national focal point; and
o) Ensuring that the Department is efficiently managed and provided with the necessary resources, and further ensuring that all resources allocated to the Department are effectively and optimally utilised.[3]

To perform its duties, the DEA has four professional divisions: Environmental Education and Public Awareness, Environmental Information Management, Environmental Assessment and Audits, and Policies and Programmes. An additional division is the Departmental Management division (see Figure 4.1). All activities relating to EIA fall under the Environmental Assessment and Audits division. The DEA's roles and responsibilities in this regard are as follows:

a) Require and ensure that policies, programmes and development projects are accompanied by professionally prepared and approved EIAs.
b) Examine the Terms of Reference and evaluate and endorse the EIAs of development policies, programmes and projects.
c) Implement the provisions of any appropriate EIA legislation.
d) Provide objective and impartial environmental assessment services in compliance with the requirements of the relevant legislation.
e) Prepare manuals and guidelines for the preparation of EIAs and assist in the development of sectoral EIA guidelines.
f) Examine the Terms of Reference and evaluate EIA reports of all development policies, programmes and projects.
g) Monitor the environmental implications of national policies, programmes and projects and recommend mitigation measures.
h) Undertake environmental audits in accordance with the appropriate legislation.
i) Monitor the implementation of approved EIAs.
j) Provide professional advice to central government, local authorities and the public on the preparation of EIAs.[4]

3 Ministry of Lands, Housing and Environment. 2011. *Department of Environment: Statement of objectives and functions.* www.envirobotswana.gov.bw
4 Ministry of Lands, Housing and Environment. 2011.

The government is pursuing a programme of decentralisation of many of its institutional functions, including environmental affairs. To this end, the DEA has opened offices in the following towns: Maun, Tsabong, Francistown, Serow and Ghanzi.

4.2.3 Intersectoral cooperation

The natural resource base in Botswana, like everywhere else in the world, is an integrated functional system. Its utilisation, administration and management is, however, organised along separate but interrelated development and conservation processes, for administrative expediency. All ministries in the central government have portfolio responsibility for some aspect(s) of development. Some ministries also have responsibility for certain aspects of conservation. A number of statutory and non-statutory boards have been established to administer, manage and control some aspects of natural resources, their products and services. The main ministries include:

- Agriculture
- Minerals, Energy and Water Resources
- Trade and Industry
- Works and Transport
- Local Government
- Lands and Housing
- Department of National Museums and Monuments.

Various legislative provisions enable the different ministries and departments to enforce conservation practices in their fields (see section 4.3.7). For example, the Agricultural Resources Conservation Act of 1974[5] gives the Agricultural Resources Board extensive powers over the protection of agricultural resources, including soils, water and plant life, but these powers will be transferred to the Ministry of Environment, Wildlife and Tourism following the revision of the Act.

There are certain institutional shortcomings in the current arrangements, which include the following:

- Gaps in environmental policy formulation;
- Inadequate integration of management;
- Limited monitoring capability;
- Insufficient coordination;
- Lack of capacity to resolve differences; and
- Inadequate response capability.[6]

5 This Act, the Herbage Preservation Act of 1977 and the Forest Act of 1968 are being consolidated into a new Forest and Range Resources Bill, but this is not expected to be finalised until 2013.

6 Larsson, J, 1998. *Review of the National Policy on Natural Resources Conservation and Development.* Sweden: Swedforest International AB.

It has also been observed that the enforcement of the various legislative provisions has been inadequate. A number of reasons have been given, including the following:

a) The externality of the law;
b) The poor and/or inadequate communication of the law;
c) Administrative and institutional irrationality and deficiency;
d) Dualistic assignments to enforcing agencies;
e) Reliance on criminal sanction as a primary sanction, instead of it being seen as a last resort;
f) The inadequacy of licensing as an instrument of administrative control;
g) The unavailability of viable alternatives to prohibited activities; and
h) The command and control posture of the law.

4.2.4 Environmental liaison officers

Environmental liaison officers have been designated within each of the sectoral ministries or departments and the local authorities. These officers are responsible for ensuring that their organisation complies with the National Policy on Natural Resource Conservation and Development and the National Conservation Strategy (1991)[7] and for liaising closely with the DEA.

4.3 Policy and legal framework for EIA in Botswana

4.3.1 National Conservation Strategy

In 1991, the Government of Botswana prepared the National Conservation Strategy in order to ensure the sustainability of future development, whenever and wherever possible. At that time, it was already clear that many of the country's natural resources were under pressure, raising concerns about the ability of the resources to meet the needs of future generations.[8] The impacts of these development pressures are still manifest in the following:

- Pressure on water resources;
- Degradation of rangeland pasture resources;
- Depletion of wood resources;
- Exploitation of veld products;
- Pollution;
- Resource pressure from the growth in the human population;
- Depletion and conservation of wildlife resources; and
- The need to improve environmental awareness.

7 Kalikawe, MC, 2001. *Botswana: Integrating biodiversity into the tourism sector.* Gaborone: Department of Tourism.

8 Republic of Botswana, 1990. *National Policy on Natural Resources Conservation and Development.* Government Paper 1 of 1990. Gaborone: Government Printer.

Thus, in order to achieve sustainable development as envisaged in the National Development Plan, the primary goals in formulating the Strategy were to develop policies and measures that do the following:

a) Increase the effectiveness with which natural resources are used and managed, so that beneficial interactions are optimised and harmful environmental side effects are minimised.
b) Integrate the work of the many sectoral ministries and interest groups throughout Botswana, thereby improving the development of natural resources through conservation.

The government has also identified a series of detailed strategy goals. These specifically cover development goals, such as:

i. The development of new and better natural resource uses that are sustainable;
ii. The optimisation of the existing uses made of all natural resources;
iii. The development of multiple, rather than single-purpose, natural resource uses;
iv. The diversification of the rural economy in order to generate new jobs;
v. The increased education of and participation by all members of society in improving the environment;
vi. The development of links with neighbouring countries in conserving resources; and
vii. The establishment of a balance between population growth and the supply of natural resources.[9]

It also involves conservation goals, namely:

i. The conservation of all main ecosystems, wildlife and cultural resources;
ii. The protection of endangered species;
iii. The maintenance of stocks of renewable resources (e.g. veld products), while increasing their sustainable yields;
iv. The control of the depletion of exhaustible resources (e.g. minerals) at optimal rates;
v. The distribution of incomes and rewards more equitably, in the interests of conserving natural resources;
vi. The cost-effective restoration of degraded renewable natural resources, including improved capacity for regeneration of the veld; and
vii. The prevention and control of pollution.[10]

The fulfilment of these detailed goals entails designing development that minimises environmental costs and enhances the quality of the environment. It likewise requires that when trade-offs involving the use of natural resources have to be made, the environmental, social and economic costs are fully considered.[11] It was recognised early on that specific legislation was required to ensure that impacts would be assessed systematically and appropriate mitigation plans implemented for each development.

4.3.2 Environmental Assessment Act

Gazetted in June 2010, the Environmental Assessment Act, No. 10 of 2010, repeals the 2005 EIA Act and addresses six gaps identified in this Act. These are:

- The preparation of EIA documentation;
- A review process of Environmental Impact Statements (EISs);
- Authorisation of EISs;
- Post facto EIAs for projects already implemented; and
- The establishment, management and functions of a Certification Board for EIA practitioners.

The Act has not yet been approved by Parliament, as it is waiting for the associated Regulations to be finalised first.

The Act defines the term 'environment' broadly as including 'the physical, ecological, archaeological, aesthetic, cultural, economic, institutional, human health and social aspects of the surroundings of a person'.

Section 68 of the Environmental Assessment Act of 2010 specifies that if a proposed activity is likely to have transboundary impacts, the Minister shall be informed, and s/he will initiate a consultative process, through the Minister of Foreign Affairs, with the concerned country.

Botswana is one of the few countries in the Southern African Development Community (SADC) to require strategic environmental assessments for certain policies, plans and programmes.[12] The list of those requiring a strategic environmental assessment is likely to appear in the Regulations. The Act defines strategic environmental assessment as: 'a process for evaluating the environmental consequences of proposed policy, plan or programme initiatives in order to ensure that they are fully included and appropriately addressed at the earliest stage of decision making, on par with economic and social considerations'.

4.3.3 Regulations

The legislation (through the Regulations that are being finalised) will include a list of mandatory projects to be subjected to EIAs and a list of ecologically

9 www.envirobotswana.gov.bw
10 Ministry of Lands, Housing and Environment. 2011.
11 Ministry of Lands, Housing and Environment. 2011.
12 Section 6(1)(b) of the EIA Act.

sensitive areas. The Regulations accompanying the EIA Act of 2005 were drafted in late 2006 but were not published due to the ongoing law reform process. No Regulations for the new Act of 2010 had been published at the time of writing.

4.3.4 Permits and licences

No person can undertake or implement a listed activity (to be gazetted in the forthcoming Regulations) unless the environmental impact of the proposed activity is fully taken into account according to the provisions of the Act, and an *Environmental Authorisation* has been issued in terms of section 14 of the Act (see section 4.4.4 of this Handbook).

The Environmental Authorisation will be valid for the period stipulated and must be renewed at the end of the period.[13] The competent authority, which is the DEA, may revoke the authorisation at any time, subject to the requirements of section 17(2) of the EIA Act, if:

- There is an unanticipated, irreversible, adverse environmental impact.
- A developer fails to comply with any of the terms and conditions listed on the authorisation.

Written consent from the DEA is required to transfer the Environmental Authorisation to another person or entity.[14]

Some activities will need a permit in addition to the Environmental Authorisation. For example, a quarry or mine will require a permit from the Department of Mines to operate.

4.3.5 Offences and penalties

The Environmental Assessment Act clearly specifies what is considered an offence, and penalties are specified for each offence. These are summarised in Table 4.1.

13 Section 16 of the EIA Act.
14 Section 18 of the EIA Act.

Table 4.1: Offences and penalties in terms of the Environmental Assessment Act of 2010

Offence	
Section 4(2): Unauthorised activity, i.e. without an Environmental Authorisation	P100 000, a maximum of five years in prison, or both
Section 4(5): Failure to rehabilitate an area affected by an unauthorised development	P1 000 000, a maximum 15 years in prison, or both
Section 16(2): Unauthorised transfer of an Environmental Authorisation to a third party	P2000, three months in prison, or both
Section 12(4): Wilful obstruction or the provision of false information to a DEA official or practitioner	P100 000, a maximum of five years in prison, or both
Section 9(5): Failure to prepare and submit an EIS within the period prescribed in the approved Terms of Reference.	P1 000 000, a maximum of 15 years in prison, or both
Section 49: Any illegal activity relating to registration as an environmental practitioner, or unauthorised modification of the register	Fine not exceeding P2000, a maximum of three months in prison, or both

A general penalty is added in the Act of 2010, which provides for a fine not exceeding P50 000 or a term of imprisonment of up to two years for any person who contravenes the provisions of the Act of 2010, for which no penalty is otherwise provided.

4.3.6 Fees

At present, no fees are charged for an application for an Environmental Authorisation or for the review of EIA reports, but provision has been made for such fees in the draft EIA Regulations.

4.3.7 Guidelines

A general guideline has been developed for EIA and strategic environmental assessments in Botswana.[15] The guideline specifies how to comply with the procedures and requirements of the Environmental Assessment Act (2005 and 2010) in undertaking an EIA or strategic environmental assessment in Botswana. In addition, the Environmental Assessment Act of 2010 makes provision for Regulations to be made regarding specific guidelines for various stages of the EIA process, the content of the EIA report, the review process, and the like.

A number of sector-specific guidelines contain references to the EIA requirements on their activities. They include:

- Agriculture projects;

15 www1.eis.gov.bw/eis/EIA

- Infrastructure projects;
- Extractive industry;
- Energy industry;
- Waste management industry;
- Metals processing industry;
- Glass manufacturing industry;
- Chemicals, rubber and plastics industry;
- Food processing industry;
- Leather and textile industry;
- Wood and paper industry;
- Firing ranges, gunpowder and explosives industry;
- Tourist lodges outside urban areas; and
- Plans, programmes and policies.

The Department of Water Affairs, which has been at the forefront of EIA application in Botswana, has established procedures developed through practice in preparing EIAs. The National Water Master Plan has also identified topics that should be included in environmental assessments of water development projects.[16] These are: hydrology, plant ecology, faunal studies, archaeology, medico-ecological aspects, sociological aspects, changes in land use, and tourism and recreation. Similarly, the Department of Roads, in conjunction with the DEA, has prepared guidelines for undertaking EIAs for road projects.

4.3.8 Environmental standards

The Keynote Paper prepared for National Development Plan 9 identified the urgent need for Botswana to develop environmental quality and emission standards. This was set as a task under the Ministry of Health in National Development Plan 9.[17] Although non-numerical air quality regulations are found in the Atmospheric Pollution (Prevention) Act of 1998, it is expected that World Health Organization standards for air quality will be used as a reference until local standards have been adopted. At present, Botswana also does not have numerical noise standards. Again, it is expected that World Health Organization standards will be used as a reference until local standards have been adopted – expected to be included in the National Development Plan 10 process. Minimum requirements for non-numerical waste disposal are found in the Waste Management Act of 1998 and in the Guidelines for Disposal of Waste by Landfill.[18]

Botswana's water quality standards are summarised in Tables 4.2 and 4.3.

16 Republic of Botswana, 1992. *National Water Master Plan*. Gaborone: Government Printer.
17 Jansen, R & Arntzen, JW (eds), 2002. *Environmental Keynote Paper for National Development Plan IX*. Gaborone: National Conservation Strategy Agency, Government of Botswana.
18 SAPP (Southern African Power Pool), 2006. *EIA guidelines for hydropower development projects in SADC*. Unpublished report.

Table 4.2: Wastewater quality standards*

Physical and microbiological requirements		
Parameter	**Units**	**Maximum allowable discharge for wastewater**
Temperature	°C	35
pH	units	6.0 - 9.0 units
Dissolved oxygen	%	60
Biological oxygen demand (max.)	mg/l	30
Chemical oxygen demand (filtered) (max.)	mg/l	75
Colour	TCU	50
Total dissolved solids	mg/l	2 000
Total suspended solids	mg/l	25
Faecal coliform	Count/100 ml	1 000
Chemical requirements		**Inorganic macro-determinants (mg/l)**
Free and saline ammonia as N		10
Orthophosphate as P or soluble phosphate		1.5
Calcium as Ca		500
Chloride as Cl		600
Residual chlorine		1.0
Fluoride as F		1.5
Nitrate as N		22
Potassium as K		100
Sodium as Na		400
Sulphate as SO_4		400
Zinc as Zn		5.0
Chemical requirements		**Inorganic micro-determinants (µg/l)**
Arsenic as As		0.10
Boron as B		0.50
Cadmium as Cd		0.02
Chromium VI as Cr		0.25
Chromium (total) as Cr		0.50
Cobalt as Co		1.00
Copper as Cu		1.00
Cyanide as CN		0.10
Iron as Fe		2.00
Lead as Pb		0.05
Manganese as Mn		0.10
Mercury as Hg		0.02
Nickel as Ni		0.30
Selenium as Se		0.02

*Botswana Bureau of Standards BOS 93:2004.
TCU: true colour unit

Table 4.3: Drinking water standards*

Microbiological safety determinants			
Determinants		**Units**	**Acceptable limit**
Total coliforms		Count/100 ml	Not detected
Escherichia coli		Count/100 ml	Not detected
Faecal coliform bacteria		Count/100 ml	Not detected
Faecal streptococci		Count/100 ml	Not detected
Clostridium perfringens[1]		Count/100 ml	Not detected
Cryptosporidium		Count/volume sampled[2]	Not detected
Giardia		Count/volume sampled[2]	Not detected
Physical, inorganic and organic chemical requirements			
Determinants	**Units**	**Class I (acceptable)**	**Class II (max allowable)**
Colour	TCU	15	50
Conductivity at 25ºC	µS/m	1 500	3 100
Dissolved solids	mg/l	1 000	2 000
Odour		Not objectionable	Not objectionable
pH value at 25ºC	Units	5.5 - 9.5	5.0 - 10.0
Taste		Not objectionable	Not objectionable
Turbidity	NTU	1	5
Inorganic macro-determinants			
Ammonia as N	mg/l	1.0	2.0
Calcium as Ca	mg/l	150	200
Chloride as Cl	mg/l	200	600
Fluoride as F	mg/l	1.0	1.5
Magnesium as Mg	mg/l	70	100
Nitrate as NO_3	mg/l	50	50
Nitrite as NO_2	mg/l	3.0	3.0
Potassium as K	mg/l	50	100
Sodium as Na	mg/l	200	400
Sulphate as SO_4	mg/l	250	400
Zinc as Zn	mg/l	5.0	10.0
Inorganic micro-determinants			
Aluminium as Al	µg/l	200	200
Antimony as Sb	µg/l	20	50
Arsenic as As	µg/l	10	10
Cadmium as Cd	µg/l	3	3
Chromium (total) as Cr	µg/l	50	50
Cobalt as Co	µg/l	500	1 000
Copper as Cu	µg/l	2 000	2 000
Cyanide (free) as CN	µg/l	70	70
Cyanide (recoverable) CN	µg/l	70	70
Iron as Fe	µg/l	300	2 000
Lead as Pb	µg/l	10	10
Manganese as Mn	µg/l	100	500
Mercury (inorganic) as Hg	µg/l	6	6
Nickel as Ni	µg/l	70	70
Selenium as Se	µg/l	10	10
Organic determinants			
Total organic carbon	µg/l	8 000	8 000
Total trihalomethanes	µg/l	1 000	1 000
Phenols	µg/l	10	10
Chloroform	µg/l	300	300
Aldrin	µg/l	0.03	0.03
Dieldrin	µg/l	0.03	0.03
Chlordane	µg/l	0.2	0.2
DDT	µg/l	2	2
Lindane	µg/l	2	2
Endrin	µg/l	0.6	0.6
Heptachlor	µg/l	0.03	0.03
Heptachlor epoxide	µg/l	0.03	0.03
Methoxychlor	µg/l	20	20
Parathion	µg/l	50	50
Toluene	µg/l	700	700
Xylene	µg/l	500	500
Ethyl benzene	µg/l	300	300

*Botswana Bureau of Standards BOS 32:2009.

1. Analysis should be done biannually but should be carried out more often during the rainy season or during outbreaks of waterborne diseases.
2. Standard volume usually used is 10 litres or 1000 litres.

TCU: true colour unit
NTU: nephelometric turbidity unit
DDT: dichlorodiphenyltrichloroethane

4.3.9 Certification of EIA consultants

In terms of section 37(1) of the EA Act of 2010, all environmental assessment practitioners who wish to practise in Botswana must be registered and certified. To this end, section 20 provides for the establishment of the Environmental Assessment Practitioners Board. The Board is responsible for the following:

- Registering and certifying environmental assessment practitioners according to certain quality standards;
- Establishing criteria for such certification;
- Establishing a Code of Practice for environmental practitioners;
- Promoting continual professional development of environmental practitioners;
- Promoting awareness of the role of environmental practitioners;
- Liaising with tertiary institutions to identify relevant, accredited courses;
- Determining subscription fees payable by practitioners; and
- Defining the type of work practitioners may conduct.

The Board will maintain a register of environmental assessment practitioners, and may discipline or suspend them or remove their names from the register (section 47) if they contravene any section of the Act or Code of Conduct. Registered environmental assessment practitioners will be required to pay a fee upon registration and every year thereafter (section 29).

4.4 EIA procedural framework in Botswana

The EIA process under the 2005 EIA Act required a preliminary EIA, followed by scoping and determination of the Terms of Reference for the EIA, followed by an EIA if required. The Environmental Assessment Act of 2010 uses slightly different terminology but the process is similar, as described below and shown schematically in Figure 4.2.

4.4.1 Screening

In Botswana, the term 'screening' means an initial stage in the EIA process where the Minister determines whether an activity should be subject to an EIA or not. This stage was termed the preliminary EIA under the 2005 Act.

Under the Act, Category A projects require a full EIA, Category B projects require a partial EIA, and projects in Category C do not require an EIA. The Act does not specify what activities fall into which category, leaving this to be clarified in the Regulations, which have yet to be published.

4.4.2 Project Brief

Under the 2010 Environmental Assessment Act, every application for an Environmental Authorisation for a *project* must be accompanied by a Project Brief, and the formulation of *policies and programmes* must be accompanied by a strategic environmental assessment.

The Project Brief or strategic environmental assessment must include the views and opinions of interested and affected parties. To this end, the Act requires the applicant (proponent) to do the following:

- Publicise the proposed activity, its effects and benefits in the mass media for a period of at least 21 days.
- Hold meetings with affected people or communities.[19]

Under section 6(5) of the Environmental Assessment Act, the DEA may authorise the implementation of the activity if it is satisfied that there are no probable adverse impacts. It may, under subsection 6, request the developer to submit an environmental management plan (see Figure 4.2). However, the DEA may request the applicant to submit more information to allow it to make an informed decision.

If the proposed project is likely to have adverse impacts on the environment, the DEA can reject an application or decide that an EIA is required. It will then direct the applicant to prepare Terms of Reference for the EIA in a form yet to be prescribed. In considering the Terms of Reference, the DEA may carry out its own investigations and/or request more detail in the Terms of Reference before it can approve them (see Figure 4.2).

4.4.3 EIA and EIS

Section 9 of the Act states that the 'EIA shall identify and evaluate the environmental impact of an activity with particular reference to the:

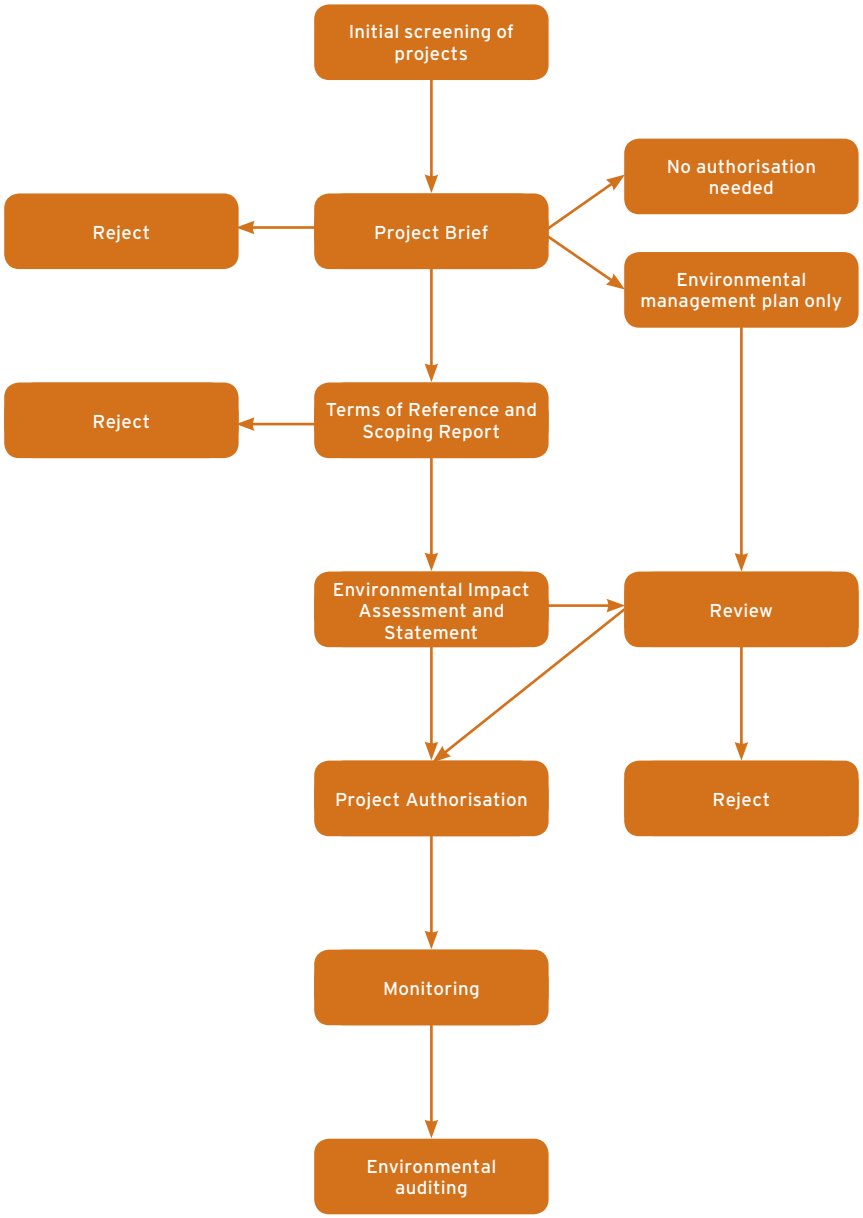
- Health, safety or quality of life of people;
- Archaeological, aesthetic, cultural or sanitary conditions of the environment; and
- Configuration, quality and diversity of natural resources.'

Section 10 of the Environmental Assessment Act requires the DEA to place a notification in the Government Gazette and specified newspapers at least once a week for a period of four weeks, inviting comments and objections from the interested and affected parties. The notice must contain at least the following information:

- Nature and magnitude of the proposed activity;
- Location of the activity;
- Anticipated environmental impact of the proposed activity; and
- The proposed mitigation measures to minimise the negative impacts.

19 Section 7(2) of the Environmental Assessment Act.

Figure 4.2: EIA process in Botswana



In its decision-making process, the DEA must consider comments or objections raised by the public during this period. However, if the project is considered contentious, the DEA may hold a public hearing.[20] The procedure for holding a public hearing has not yet been prescribed in Regulations.

An important component of the Act is that any Terms of Reference, statement, report, decision or any other document produced under this Act shall be accessible to the public.[21]

4.4.4 Review of the EIS

Section 10 of the Act gives the DEA *60 days* in which to review the EIS. After its review, the DEA may invite public comment. Once it is satisfied that the report is adequate and that the proposed mitigation measures will be 'effective and sufficient', it may do one of the following:

- Grant an Environmental Authorisation with conditions.
- Reject the EIS in writing, giving reasons for the decision (see Figure 4.2).[22]

Botswana has not developed guidelines for a formal review process, but section 17 requires the competent authority (the DEA) to consider the following:

- The contents of the Terms of Reference;
- The EIS;
- The recommendations of other government departments and local authorities;
- The comments and objections made by the interested and affected parties.

A person aggrieved by the decision may appeal to the High Court within 30 days of receiving the decision.[23]

4.4.5 Environmental monitoring and audits

Section 18 of the Environmental Assessment Act requires the authorities to monitor compliance with the agreed mitigation measures, while section 19 makes provision for environmental audits. Also, the DEA is authorised to demand reports from proponents, which show their progress on the implementation of environmental safeguards.

4.5 Other relevant environmental legislation in Botswana

Existing environmental legislation is found in a range of Acts (see Table 4.3) and subsidiary legislation. Some clauses in the Mines, Quarries, Works

20 Section 11 of the Environmental Assessment Act.
21 Section 17 of the Environmental Assessment Act.
22 Section 12 of the Environmental Assessment Act.
23 Section 13 of the Environmental Assessment Act.

and Machinery Act (Chapter 44:02) of 1971 and in the Monuments and Relics Act, No. 12 of 2001, suggest that EIAs and/or archaeological assessments should be done, but these are not mandatory and the process for doing so is not prescribed. Previous reviews of the laws have identified overlaps that need to be addressed through the introduction of framework legislation. An important feature of the existing environmental laws is that there is no provision for an individual to seek remedy for environmental damage, unless s/he is personally affected.[24]

Table 4.4: Other potentially applicable sectoral requirements

Sector	Primary agency	Title and date of document	Purpose
Water resources	Ministry of Minerals, Energy and Water Resources	Botswana National Water Master Plan, 2006	Provides baseline for water resources planning and management.
	Botswana Energy and Water Regulatory Authority	Water Act, 1968 (to be revised once new policy is in place)	Defines water rights, ownership and use of public water; prohibits pollution, fouling or poisoning of water, and any interference with the flow of a public watercourse.
		Waterworks Act, 1962	Provides for the prevention of the misuse and pollution of water through the enforcement of penalties.
		Water Apportionment Board Act (will be repealed once new policy is in place under a new Water Act)	Establishes the Water Apportionment Board, which will be replaced by a Water Resources Council once the new water policy and Act are in place.
		Boreholes Act, 1950	Will be repealed as part of the law reform process mentioned above.
		Aquatic Weeds (Control) Act, 1971	Allows for the control of aquatic weeds through the control of boat movements.
Air pollution	Ministry of Minerals, Energy and Water Resources	Atmospheric Pollution (Prevention) Act, 1971	Controls air pollution from primary sources.
Waste	Ministry of Local Government	Waste Management Act, 1998	Provides for the management of controlled and hazardous wastes. Requires the provision of waste management plans, the identification of waste management sites, and the control of groundwater pollution. Responsible for planning, facilitation and implementation of the Waste Management Strategy (1998) and the implementation of the Basel Convention.
Forestry and range resources	Ministry of Environment, Wildlife and Tourism	Forest Act, 1968 Forest Regulations, 2006 (both under revision – to be replaced by the Forest and Range Resources Act)	Provides for the conservation of forestry reserves.
	Department of Forestry and Range Resources	Forest Policy, 2011	Relates to the utilisation of forest resources and sets out the responsibility of communities and district authorities to manage fire protection and undertake forest management.
		Herbage Preservation Act, 1977 (under revision – to be replaced by the Forest and Range Resources Act)	
		Conservation of Agricultural Resources Act, 1974 (under revision – to be replaced by the Forest and Range Resources Act)	
Conservation and wildlife	Ministry of Environment, Wildlife and Tourism Department of Wildlife and National Parks	Wildlife Conservation Policy, 1986 (under revision – due in 2012)	Existing policy focuses on consumptive use of natural resources, but new policy focuses on non-consumptive use, with emphasis on community-based natural resources management and photographic safaris, rather than hunting.

24 Mpotokwane, M & Keatimilwe, K, 2003. Country Chapter: Botswana. In: SAIEA (Southern African Institute for Environmental Assessment), *EIA in southern Africa*. Windhoek: SAIEA, pp. 45–61.

Table 4.4: Other potentially applicable sectoral requirements *(continued)*

Sector	Primary agency	Title and date of document	Purpose
Conservation and wildlife *(continued)*	Ministry of Agriculture	Wildlife Conservation and National Parks Act, 1992, revised in 2002 (under revision – to be promulgated once the Wildlife Conservation Policy is finalised) Wildlife Conservation and Game Reserves Regulations, 2001 Wildlife Management Area Regulations (in progress) Game Ranching Regulations (in progress) Community-Based Natural Resources Management Policy (enacted in 2007)[25]	Provides for wildlife management and conservation through gazetting of national parks, game reserves and wildlife management areas, in which wildlife conservation and use are the primary land use.
Fisheries	Ministry of Agriculture	Fish Protection Act, 1975 Fish Protection Regulations, 2008	Provides for the regulation, control, protection and improvement of fish and fishing. Includes demarcation of fishing seasons, quotas and enforcement.
Tourism	Ministry of Trade and Industry	Tourism Act, 1992 (and amendments) Tourism Regulations, 1996 Botswana Tourism Organisation Act, 2009	Provides for the development of the tourism industry in Botswana.
Health	Ministry of Health	Public Health Act, 1981	Provides for the compulsory notification of certain diseases, preventing the introduction of diseases into the country, advertising and publicising venereal diseases, regulating sanitation and housing, protecting food stuffs and water supplies, regulating the use of cemeteries, and the general provision of public health (Chapter 63:01).
Planning and zoning	Ministry of Lands and Housing Department of Town and Regional Planning	Town and Country Planning Act, 1977 (under revision) Tribal Land Act, 1970, and Tribal Land (Amendment) Act, 1993 Tribal Grazing Land Policy, 1975	Provides for the orderly development of rural and urban land and gives permission for development (Chapter 32:09). Allows for the determination of land use zones. Land Boards may determine management plans for the use and development of these zones.
Mining and mineral resources	Ministry of Minerals, Energy and Water Resources Department of Mines Department of Energy	Mines, Quarries, Works and Machinery Act, 1978 Mines and Minerals Act, 1999 Mines and Minerals Amendment Act, 2005 (both under revision) Energy Policy and Master Plan Mining Policy (draft)	Provides for the safety, health and welfare of persons engaged in prospecting, mining, quarrying operations and provides for the inspection of mines (Chapter 44:02). Includes sections on slimes dams, fuel and oil spills, and effluent water. Provides for the exploration for and development of mineral resources.
Land	Ministry of Lands and Housing	State Land Act, 1966, and Tribal Land Act, 1970, revised in 1993 Land Control Act, 1975	Provides for settlement, land allocation, land management and land use. Controls transactions in agricultural land (Chapter 32:11).

25 Motsumi, S, 2008. *Botswana National Biodiversity Strategy and Action Plan (NBSAP) – Highlights on its implementation.* NBSAP Workshop, Rustenburg, South Africa, 21 February. www.cbd.int

Table 4.4: Other potentially applicable sectoral requirements *(continued)*

Sector	Primary agency	Title and date of document	Purpose
Agriculture	Ministry of Agriculture	National Policy for Agricultural Development, 1991 (under revision)	-
		Agricultural Resources Conservation Act, 1974 (will be repealed when the Forest and Range Resources Act is promulgated)	Promotes agricultural development and the conservation of Botswana's agricultural resources.
		Noxious Weeds Act, 1916	Provides for the eradication and destruction of noxious weeds (Chapter 35:04).
		Plant Diseases and Pests Act, 1959	Prevents the introduction and spread of plant disease and plant pests (Chapter 35:02).
		Fencing Act, 1962	Provides for the construction of fences dividing farms and for apportionment of the cost (Chapter 33:03).
		Diseases of Animals Act, 1977	Prevents and controls animal diseases, regulates movement of animals into and within the country, and provides for quarantine (Chapter 37:01).
		Agrochemicals Act, 1999, and Regulations, 2003	Provides for the registration and licensing of agrochemicals, to control their importation, manufacture, distribution, use and disposal, and to limit pollution to the environment or harm to humans, plants or animals.
Archaeological, historical and cultural	Department of National Museums and Monuments	National Monuments and Relics Act, 2001	Provides for the protection, preservation and declaration of artefacts, monuments and heritage areas, defines the need for archaeological impact assessment and EIA (monuments include trees >150 years, e.g. baobabs).

Acronyms

DEA	Department of Environmental Affairs
EIA	environmental impact assessment
EIS	Environmental Impact Statement or Study
SADC	Southern African Development Community

Useful contacts

Department	Contact	Telephone	Fax	Website
Department of Environmental Affairs (Head office)	Director: S Monna	+267 390 2050	+267 390 2051	www.mewt.gov.bw
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Tsabong office	M Monamati	+267 654 0142	+267 654 0127	mmonamati@gov.bw
Francistown office	M Sebina	+267 241 7363	+267 241 7108	mhsebina@gov.bw
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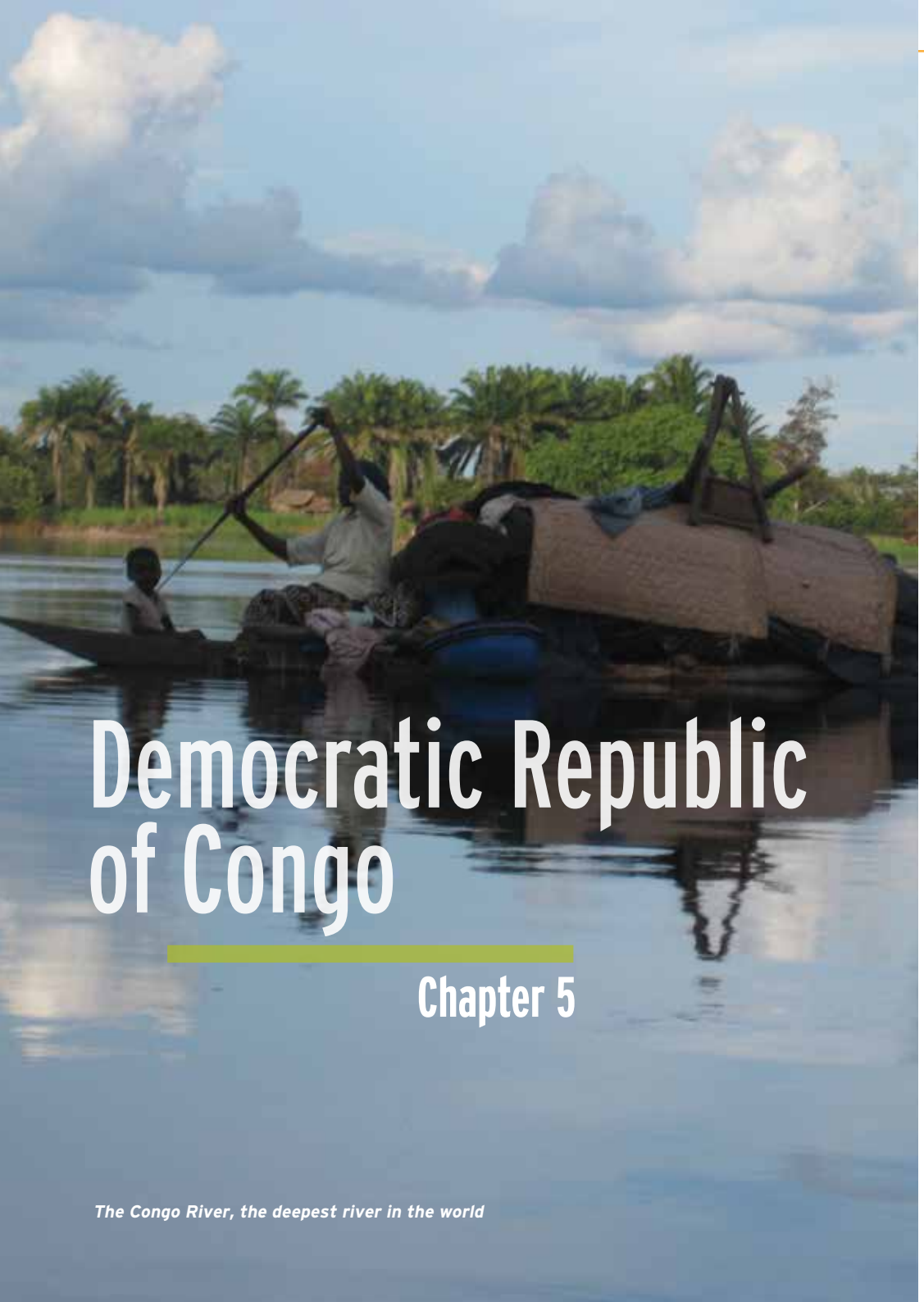

Democratic Republic of Congo

Chapter 5

The Congo River, the deepest river in the world

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Democratic Republic of Congo

5.1 Constitutional requirements for environmental protection

The Democratic Republic of the Congo (DRC), formerly the Belgian Congo and then Zaire, is the largest country in the Southern African Development Community (SADC) region. It is endowed with abundant, valuable natural resources, including diamonds, cobalt, copper and petroleum. The DRC was a colony of Belgium from 1884 until 1960, when it was granted independence. Since that time, the country has not known true democracy, as it has been riven by ethnic and civil strife, leading to political and economic instability. At the time of independence, the DRC was in a state of extreme underdevelopment, which has been aggravated by the continuing armed conflict within and outside of its borders.

The move towards democracy started when a transitional government was set up in July 2003, with Joseph Kabila as President. Four Vice-Presidents represented the former government, former rebel groups and the political opposition. The transitional government held a successful referendum in December 2005 to accept a new Constitution, and elections for the Presidency, National Assembly and provincial legislatures were held in 2006. Kabila was inaugurated as President in December 2006 and re-elected after a contested general election in 2011.

The Constitution, also known as the Constitution of the Third Republic, was adopted on 18 February 2006. Article 53 states that:

- Every person has a right to a healthy environment, which is favourable to his/her full development.
- The environment must be protected.
- The state must look after the protection of the environment and the health of the people.[1]

Article 123 of the Constitution makes provision for laws on, inter alia, the protection of the environment, the sustainable development of the natural resources of the country, and pollution prevention. Article 203 allows for cooperative governance by central government and the provincial administrations 'to protect the environment, natural sites and landscapes, and the conservation of such sites'.

1 Translated from the French original.

5.2 Institutional and administrative structure

Under the Constitution of the Third Republic, the government is composed of a Cabinet of Ministers and Deputy Ministers, the number of whom varies from one government to the next. The Prime Minister, who is appointed by the President, heads the government. The government is the effective arm of the state in charge of the country's central administration and in all the domains in which the central government has concurrent jurisdiction with the provinces.[2] One of the main priorities of the World Bank's Governance Compact with the DRC government is the decentralisation of most government administrative functions, including environmental affairs, to the provinces.[3]

At present, there are 11 provinces: Kinshasa, Bas-Congo, Bandundu, Kasai Occidental, Kasai Oriental, Katanga, Maniema, Nord-Kivu, Sud-Kivu, Province Orientale and Equateur. However, in time, it is intended to increase the number of provinces to 26 to bring government closer to the citizens and render it more effective. This process provides an important opportunity to enhance transparency and effectiveness in government, which are currently lacking. However, it also poses a daunting management challenge for the government in view of its technical and political complexity, combined with the lack of capacity and political fragility, especially at provincial level.[4] Legislation for the establishment of the new provinces was accepted in January 2011, but they have not yet been formally established.

Environmental management is dealt with between several ministries and at different levels of government.

5.2.1 Parliamentary Commission for the Environment and Natural Resources

The Parliamentary Commission for the Environment and Natural Resources has between 50 and 60 members, who are organised into four committees: general environment, mining environment, flora and fauna, and environmental control. One of the aims of the Commission is to approve sector laws and policies from an environmental perspective but, by its own admission, it does not have the expertise and knowledge to evaluate such laws and policies properly. Furthermore, there is little intersectoral coordination or synergy in policy and law development, sometimes resulting in conflicting policy objectives and legal requirements. It is hoped that this will change with the promulgation of the Environmental Protection Act, Law No. 11/009 of 2011, which promotes

2 www.wikipedia.org
3 World Bank, 2007. *Project Information Document: Enhancing governance capacity.* Report AB3435. Washington, DC: World Bank.
4 World Bank, 2007.

the mainstreaming of environmental and sustainable development issues into all policies, plans and programmes across all relevant sectors.

5.2.2 Ministry of Environment, Nature Conservation and Tourism

The Ministry responsible for the environment in the DRC has undergone several changes in name and associated responsibilities: directorates of nature conservation, land affairs, tourism, water and forests have all been included and excluded at various times since the Ministry was created under Ordinance No. 75-231 of 22 July 1975. This legislation gave the Ministry responsibility for Environmental Impact Studies (EISs).

This was reinforced in Ordinance No. 07/018 of 16 May 2007, which specifies the responsibilities of the ministries, where the President of the DRC gave authority for the management of environmental impact assessment (EIA) to the then Ministry of the Environment, Nature Conservation, Water and Forests (now known as the Ministry of Environment, Nature Conservation and Tourism (MENCT)).[5] However, in the same Ordinance, the President gave responsibility for all matters relating to mines, including environmental issues, to the Ministry of Mines, specifically to the Director of the Department for the Protection of the Mining Environment (Direction chargée de la Protection de l'Environnement Minier (DPEM)). This situation has created a conflict between the two Ministries, where the former has general competence in the environmental sector and the latter has limited competence relating to the environment in the mining sector. It is not clear whether this conflict will be resolved with the new Environmental Protection Act (EPA) of 2011. Under the transitional arrangements of the EPA (Article 86), provision is made for all 'classified installations' in existence at the date of promulgation of the Act (July 2011) to submit copies of permits, licences and authorisations, including copies of their environmental management plans, to MENCT within 12 months. The lists of 'classified installations' (requiring an EIA) have not yet been published; however, mining is listed in Article 21 as one of the activities for which an EIS is mandatory, so it would appear as if mining will in future fall under the EPA rather than the Mining Code.

There are some 20 directorates within the MENCT, but an overall organogram was not available. A Canadian consulting company undertook an institutional review of the Ministry in January 2008, with the objective of making recommendations on its restructuring. The aim was to reduce the number of departments and directorates to allow for more efficient management. The results of this review are not publicly available.

5 Point 36 on p. 22 of Ordinance No. 07/018.

The new EPA makes provision for the government to establish a National Council for the Environment and Sustainable Development under the authority of the Prime Minister (Article 17). This Council will provide advice on:

- The definition and implementation of national environmental policies; and
- The development of sectoral environmental plans and programmes where the sector may have an impact on the environment.

However, it is not clear from the Act whether the existing Directorates with responsibility for EIA will continue in their present form. For continuity, they are described below.

Environment: Group for Environmental Studies of Congo

In Ministerial Order No. 044/CAB/MIN/ECN-EF/2006 of 8 December 2006, the MENCT created an agency for EIA administration and approval – the Group for Environmental Studies of Congo (Groupe d'Etudes Environnementales du Congo (GEEC)). A further Ministerial Order, No. 008/CAB/MIN-EF/2007 of 3 April 2007, amended and completed the institution of the GEEC.

The GEEC is a technical structure within the MENCT responsible for the administration of EIA in the country. Its main objectives are the following:

- Conduct and coordinate activities relating to Environmental and Social Impact Studies (ESIS).
- Define the procedure of ESIS in the DRC.
- Ensure that the execution of all projects or development programmes is undertaken according to strict environmental and social standards.
- Promote capacity building within Congolese administrative structures and within public and private investors on matters relating to ESIS.
- Promote consultation and information sharing with the public concerning the management of the environment.
- Present an annual *State of Environment* report for the country.

The creation of GEEC demonstrates the political will of the DRC government to ensure that all development projects safeguard the biophysical and social environment. Until July 2011, the scope of the GEEC extended to all projects that may affect the environment, across all sectors, with the exception of mining. However, as mentioned above, it would seem as if the administrative of EIA for all projects, irrespective of sector, will be coordinated by a directorate of MENCT.

The GEEC is composed of five sections, with a total of nine technical and managerial personnel and eight administration and support staff (see Figure 5.1). The infrastructure portfolio includes Component A projects relating to roads, water and sanitation, the generation and transmission of electricity, anti-erosion works and involuntary resettlement of people. The Social-Agriculture

portfolio includes Component B projects such as: distribution and production of genetically modified seed; artisanal fisheries; rehabilitation of rural tracks and roads; community development, such as health, education, water and sanitation; and social protection of vulnerable people, such as the aged, women and AIDS orphans.

When required, the GEEC convenes a multi-sectoral committee of about 20 people to review EIAs, with representatives from MENCT (through the Human Settlements and Environmental Protection Directorate (Direction des Etablissements Humaines et Protection de l'Environnement)), the Congolese Institute for Nature Conservation (Institut Congolais pour la Conservation de la Nature (ICCN)), Agriculture, Health, and the like. However, it was reported that the Directorate of Sustainable Development, which carries responsibility for, inter alia, climate change, desertification and biodiversity, does not have an opportunity to comment on EIAs.

Sustainable development

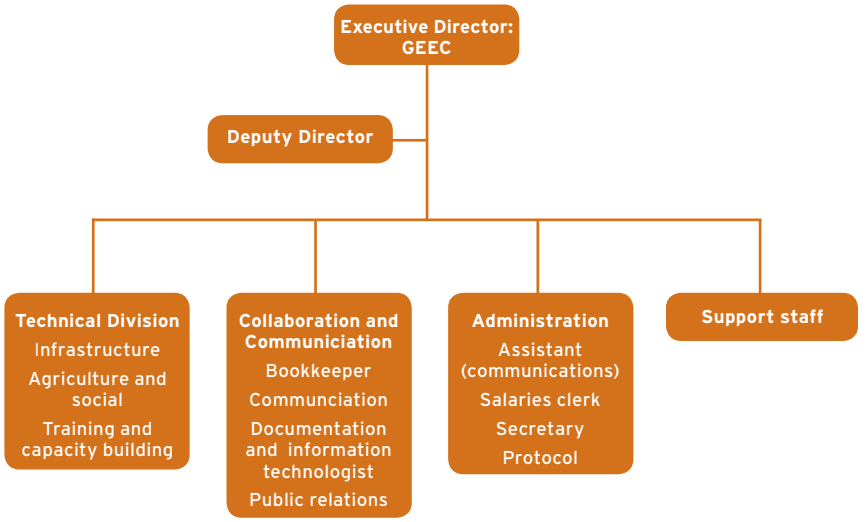
The Directorate of Sustainable Development was created by Ministerial Order No. CAB/MIN/AFF-ET/049/01 of 3 December 2001. Its aim is to ensure the implementation of the activities, recommendations and resolutions of the World Commission on Sustainable Development and of the Conference of the Parties to the Conventions on Biodiversity, Climate Change and Desertification. The Directorate comprises a Director and four divisions, each with two personnel: Biodiversity, Climate Change, Desertification and Sustainable Development. The Secretariat includes six support and administrative staff, giving a total of 15 staff in the Directorate.

5.2.3 Interministerial Committee on Environment, Nature Conservation and Tourism

This Committee was originally established by Law No. 75/232 of 22 July 1975. It is chaired by the Minister of Environment, and members include ministers whose portfolios address environmental issues in some way, the private sector, civil society, research centres and universities, and local authorities.[6]

6 www.unep.org.

Figure 5.1: Organogram of the Group for Environmental Studies of Congo



5.2.4 Ministry of Mines

Until the promulgation of the EPA in 2011, the only activities that had a formal requirement for an EIA in the DRC were exploration, mining and quarrying. The EPA has only recently come into effect; there are transitional arrangements in place; and the mining sector is one of the most active parts of the economy and has the potential to incur serious environmental impacts. For these reasons, the following discussion provides a background to the administrative and institutional structure of the Ministry of Mines relating to environmental administration.

Directorate of Mines

The Directorate of Mines is responsible for inspecting and supervising mining activities and quarry works with regard to safety, health, work procedures, production, transport, sale and social matters.

Department for the Protection of the Mining Environment

Article 15 of the Mineral Code makes provision for the establishment and powers of a Department for the Protection of the Mining Environment (DPEM). Up until the promulgation of the EPA, the DPEM was responsible for all aspects of environmental management relating to:

a) The definition and the implementation of mining regulations on environmental protection with regard to exploration, artisanal miners, and exploitation activities for mines and quarries;

b) The technical evaluation of the Mitigation and Rehabilitation Plan (MRP) in relation to the prospecting operations for mineral substances classified as mines and quarries; and,
c) The technical evaluation of the EIS and the Environmental Management Plan of the Project (EMPP) presented by the applicants requesting mining or quarry exploitation rights.

One of the biggest challenges facing the DPEM is the fact that the mining companies are not applying the requirements of the Mining Code and Regulations on site and DPEM lacks the capacity to monitor on-site compliance and control. Hopefully, this will change with the introduction of the EPA and the devolution of powers to the provinces.

5.3 Policy and legal framework for EIA

5.3.1 Environmental policies and National Environmental Action Plan

In response to Agenda 21 of the United Nations Conference on the Environment and Development held in Rio de Janeiro in 1992, the DRC formulated its National Environmental Action Plan (Plan National d'Action Environnemental (NEAP)) in 1997 with funding from the United Nations Development Programme (UNDP). The NEAP was developed with input from approximately 520 people, representing public institutions, universities, research organisations, the private sector and non-governmental organisations, and was finally adopted by the government on 13 February 2002. The main finding was that the system of management of the country's natural resources was deficient and that a legal framework was urgently required. It also found that environmental management was spread over a wide range of sectors, which precluded the formulation of a coherent environmental policy to focus attention and resources on environmental protection.[7]

The major issues identified in the NEAP were:
- Daily destruction of the environment as a result of extreme poverty, population growth and general ignorance about environmental matters;
- Water pollution, together with the absence of national water quality standards;
- Soil degradation in areas with high population densities;
- Air pollution resulting from agriculture, industry and the energy industries; and
- Urban degradation and insalubrious conditions resulting from a combination of poor planning, the inability of municipal authorities to control the influx of migration to the cities, as well as population growth.

7 UNDP (United Nations Development Programme), 1997. *Plan National d'Action Environnemental. Document Synthèse.* New York: UNDP.

In order to combat these problems, as well as the weak and sometimes conflicting legal framework, the NEAP recommended a five-year programme (1997–2002) of interventions in eight areas:
- Institutional development;
- Water resources management;
- Soil resources management;
- Atmospheric pollution;
- Management of the urban environment;
- Natural ecosystems;
- Cultural and historical heritage; and
- Natural disasters (floods, volcanic eruptions, etc.).

In 1997, the cost of these interventions was estimated at US$85 million. Unfortunately, by 2011, few of the planned interventions set out in the NEAP had been implemented, given the absence of an overarching environmental policy for the country and a lack of funding. To address this, the Ministry of Environment submitted a proposal to its financial partners (the Food and Agriculture Organization, the World Bank and the United Nations Global Environmental Facility) in February 2008 to develop an updated NEAP, but this was not available at the time of writing. The new EPA states that a new National Environmental Policy on the sustainable management of natural resources will be translated into a new NEAP (Article 15). Furthermore, each province will be required to develop its own programmes related to the management and protection of the environment, in conformance with the new NEAP (Article 16).

5.3.2 Environmental Protection Act, No. 11/009

After many years in draft form, a framework law on the environment has been promulgated: the Environmental Protection Act (EPA), No. 11/009 of 9 July 2011. The new law sets out the fundamental and universal principles for sustainable development and sound environmental management. The principles, which will also serve as a basis for any other sector-specific laws relating to the environment, are as follows:
- The principle of sustainable development – all national policies that affect the economic and social development of the country must be based on the principle of sustainable development;
- The principle of access to information and the participation of the public in decision-making on environmental matters;
- The principle of preventative and corrective actions;
- The precautionary principle;
- The polluter pays principle;
- The principle of international cooperation on environmental matters; and
- The principle of mainstreaming sustainable development across all relevant sectors.

The EPA contains several new requirements, notably the obligation to undertake an ESIS; environmental audits; environmental evaluation of policies, plans and programmes; the creation of new institutional structures; and an Environmental Fund for research, conservation, clean-up operations, rehabilitation and pollution prevention (Article 25). The Act is articulated in nine chapters:

Chapter 1: General dispositions
Chapter 2: Institutional framework
Chapter 3: Procedural mechanisms
Chapter 4: Financial mechanisms
Chapter 5: Management and conservation of natural resources
Chapter 6: Prevention of risks and control of pollution and other nuisances
Chapter 7: Responsibilities of civil society
Chapter 8: Offences and penalties
Chapter 9: Transitional arrangements, repeals.

The EPA defines the term 'environment' as 'the assemblage of all natural and man-made elements and the biological and geochemical systems in which they operate, as well as economic, social and cultural factors that promote the existence, transformation and development of the milieu, living organisms and human activities'.

An *Environmental and Social Impact Study* (ESIS) is defined as 'a systematic process to identify, predict, evaluate and mitigate the physical, ecological, aesthetic and social impacts prior to the implementation of projects relating to the construction, manufacture, commissioning, installation or establishment of industrial units, agriculture, etc., in order to obtain an appreciation of the direct and indirect consequences on the environment'.

It is clear from the above definitions that the term 'environment' is interpreted in its widest sense and includes the socio-economic and cultural dimensions of the environment.

Article 21 of the EPA requires the development, construction or exploitation of all activities relating to industrial, commercial, agricultural, forestry, mining and telecommunications projects, and any other activities that may have an impact on the environment, to be subject to an ESIS and environmental management plan, before obtaining approval from the competent authority.

Furthermore, the EPA makes provision for the Minister of Environment to undertake an *environmental audit* of all works, projects or activities that present a potential risk to the environment or population (Article 23). The latter is defined in the Act as being a 'management tool consisting of a systematic, documented, periodic and objective evaluation of systems and organisational and management processes, which is carried out to ensure that the environment is being protected'.

All projects or activities that could have an impact on the environment must be subject to a public hearing during the ESIS (Article 24). The aims of the public hearing are as follows:

- Inform the public in general and the affected communities in particular about a project or activity.
- Obtain information about the environment and understand whether there are any other rights held by third parties in the zone affected by the project or activity.
- Collect the concerns, ideas and suggestions for alternatives in order for the competent authority to consider all aspects necessary for decision-making.

Strategic environmental assessment

Article 19 of the EPA states that all policies, plans and programmes drafted by the state, province, other decentralised government structure or a public enterprise, which may have a significant impact on the environment, must be subject to an environmental evaluation. While it does not use the term 'strategic environmental assessment', the intent of the Article is the same.

Furthermore, the strategic approach to mainstreaming environmental management into development planning is articulated in Article 6 of the EPA, which requires the state, province or other decentralised government structure to consider, before the formulation of land use management and zoning plans, the imperatives of environmental protection and the wellbeing of the local population.

5.3.3 Regulations in terms of the Environmental Protection Act

At the time of writing, no Regulations have been made in terms of the EPA, but the Act does make provision for decrees to be made on the following:

- Regional and local development plans;
- Access to environmental information and recourse;
- Public participation;
- The Council for the Environment and Sustainable Development;
- List of sector activities requiring an environmental evaluation and the procedures and content of such an evaluation;
- List of different categories of projects or activities that require an ESIS;
- The contents and modalities of the review and approval of policies, plans and programmes;
- The organisation and functions of the ESIS review and approval body;
- Environmental audits;
- Public hearings;

- The Environmental Fund;
- All aspects relating to the prevention of risks and the control of pollution, including:
  - The protection of the ambient environment;
  - The management of chemicals;
  - The management of waste;
  - Genetically modified organisms; and
  - The management of natural disasters and emergency situations.

5.3.4 Mining Code, Law No. 007/2002

From 1999 to 2002, the World Bank assisted the DRC in the development of the Mining Code (Code Minier) and its Regulations. At the time, there was no other framework law for EIA in the DRC, which made it necessary to include EIA provisions in the Mining Code. Up until the promulgation of the EPA in July 2011, the Mining Code was the only legislation specifying the need for EIAs for certain activities. In view of the transitional arrangements in the EPA and the fact that some mining EIAs are currently in progress in terms of the Mining Code and its Regulations, the following sections describe the requirements of this legislation to ensure continuity.

The Mining Code specifies the need for an EIS, an MRP and an EMPP. The Code defines these as follows:

Environmental Impact Study (EIS): A priori scientific analysis of the foreseeable potential effects that a given activity will have on the environment, as well as the analysis of the acceptable levels thereof and the mitigating measures to be taken to ensure the conservation of the environment, subject to the best technology available, at a viable economic cost;

Mitigation and Rehabilitation Plan (MRP): Plan required for the operations relating to a mineral or quarry exploration right or a Temporary Quarry Exploitation Licence pursuant to which a holder undertakes to carry out certain mitigation measures of the impact of his activities on the environment, as well as rehabilitation measures where said activities take place, including the holder's undertaking to provide a financial guarantee to cover or guarantee the mitigation and rehabilitation costs of the environment;

Environmental Management Plan of the Project (EMPP): Environmental specifications of the project, consisting of a programme for the implementation and monitoring of measures contained in the EIS in order to eliminate, reduce and possibly offset the damaging consequences.

The Mining Code applies to all commercial activities associated with the prospecting, exploitation, processing, transportation and sale of mineral substances, as well as artisanal mining activities. However, the exploration and extraction of liquid or gaseous hydrocarbons are excluded from the Mining Code because they are governed by separate laws.[8]

5.3.5 Regulations in terms of the Mining Code

Regulations pertaining to mining are contained in Decree No. 038/2003 of 26 March 2003. These Regulations set out, inter alia, the contents of EIA and EMPP reports (see section 5.4). They contain a number of Annexures, but the ones that relate specifically to the environment are:

Annex II: Financial surety for rehabilitation
Annex III: Environmental Code of Conduct for Prospectors
Annex VII: Mitigation and Rehabilitation Plan (MRP)
Annex VIII: Guidelines for preparing an MRP
Annex IX: Guidelines for preparing an EIS and EMPP
Annex X: Closure measures
Annex XII: Classification of mining wastes and their characteristics (standards for effluents)
Annex XII: Sensitive environments
Annex XIII: Method for the measurement of noise

The requirements of the Mining Regulations are extremely onerous and focus on process rather than outcomes. This causes three problems: first, smaller companies either just ignore the Regulations or pay lip-service to the requirements; second, it makes any form of compliance auditing impossible; and third, the rigidity of the Regulations makes it difficult to be flexible and innovative and implement technological improvements.

5.3.6 Permits and licences

The new EPA does not specify the nature or terminology of the environmental authorisations that may be issued in terms of the EPA or associated decrees.

In terms of the Mining Code, a *Prospecting Certificate* is required for all prospecting for minerals in the DRC. The holder of a Prospecting Certificate is required to comply with all applicable regulations on the protection of the environment.[9]

Any person is allowed to explore or exploit minerals in the DRC as long as s/he is in possession of a valid *Mining or Quarry Exploitation Licence*, granted by the relevant government entity.[10] The licence will not be granted unless the applicant submitted and had approved the documents making up the

8 Article 2 of the Mining Code.
9 Article 20 of the Mining Code
10 Article 5 of the Mining Code

environmental plan, which include an EIS and EMPP/MRP. However, mining is not allowed in areas designated by the President as prohibited areas because of their environmental sensitivity.[11]

5.3.7 Offences and penalties

The EPA specifies the offences and associated penalties related to violations of the requirements of the Act. These are summarised in Table 5.1 below.

Table 5.1: Offences and penalties

Offence	Penalty
Any official of the Ministry who violates the EPA	A fine equal to five times the fee that would have been paid for the evaluation and validation of the ESIS
Any person who intentionally provides incorrect or erroneous information in the ESIS	A fine of equal to double the fees paid for the evaluation and validation of the study
All operators of a classified installation who do not have an emergency plan as prescribed in the EPA.	A fine of CDF9 – 40 million
All persons who import hazardous wastes or radioactive material	A prison sentence of five to ten years; and/or a fine of CDF100 – 250 million; and they must re-export or remove the hazardous waste without delay and/or restore the sites or landscapes that have been degraded or polluted at their own cost. If this is not done, a tribunal can order it to be done at the cost of the culprit and it can interdict the operations that were the origin of the wastes to stop operations.
All persons who transport, dispose of, abandon, throw away or discharge industrial, artisanal, medical, biomedical or pharmaceutical wastes in violation of the EPA	A prison sentence of six months to three years; and/or a fine of CDF1 – 25 million
All persons who pollute or degrade the soil or subsoil in violation of the EPA	A prison sentence of six months to three years; and/or a fine of CDF2.55 – 25 million; and they must re-export or remove the hazardous waste without delay and/or restore the sites or landscapes that have been degraded or polluted at their own cost. If this is not done, a tribunal can order it to be done at the cost of the culprit and it can interdict the operations that were the origin of the wastes to stop operations.
All persons who pollute, in any manner, freshwater bodies or the ocean or degrade the coastal ecosystems	A prison sentence of six months to three years; and/or a fine of CDF5 – 50 million; and they must re-export or remove the hazardous waste without delay and/or restore the sites or landscapes that have been degraded or polluted at their own cost. If this is not done, a tribunal can order it to be done at the cost of the culprit and it can interdict the operations that were the origin of the wastes to stop operations.
All persons who alter the quality of the air in violation of the EPA	A prison sentence of six months to three years; and/or a fine of CDF5 – 50 million.
All persons who produce, import, use, put on the market or discharge toxic chemicals in violation of the EPA	A prison sentence of two to five years; and/or a fine of CDF90 – 200 million.
Anyone who operates, transforms or modifies a classified installation or changes the manufacturing process, leading to dangerous or negative impacts	A fine of CDF100 – 250 million.
Anyone who dumps, incinerates or discharges, by any means, hazardous or radioactive wastes into freshwater or the ocean under DRC jurisdiction	A prison sentence of six to ten years; and/or a fine of CDF100 – 250 million.

5.3.8 Fees

No fees for the review, validation and approval of an ESIS and environmental evaluation have been defined yet, but these are likely to be included in future decrees.

5.3.9 Environmental standards

The environmental quality standards applicable to mining operations are provided in Annex IX of the Mining Code, together with details on monitoring frequency, monitoring locations, calculations and measurement techniques. Tables showing standards for water quality, air pollution and noise are included in Annex IX and are repeated below in Tables 5.2 to 5.5.

11 Article 6 of the Mining Code.

Table 5.2: Maximum concentration of contaminants in water (mining)

Determinant	Maximum concentration (mg/l, except where indicated)
Temperature at the edge of the mixing zone	5°C above the maximum ambient temperature of the receiving waters and a maximum of 3°C if the ambient water temperature is 28°C or more
Oil and grease	20
Biological oxygen demand	50
Acute toxicity	More than the acute level specified for freshwater fish and crustaceans
pH	6 - 9 units
Suspended solids	100
Arsenic	0.4
Copper	1.5
Cyanide, total	2.0
Iron	6.0
Lead	0.5
Mercury	0.002
Nickel	1.0
Zinc	10.0
Hydrocarbons	10.0

Table 5.3: Threshold limits for air pollution within the mining rights area

Nature of contaminant	Threshold limit (mg/m^3)
Arsenic	0.5
Carbon monoxide	29
Copper	1
Free silica	5
Hydrogen cyanide	11
Hydrogen sulphide	14
Lead - emissions and fumes	0.15
Nitrogen dioxide	6
Solid particles	10
Sulphur dioxide	5

Table 5.4: Threshold limits for air pollution outside the mining rights area

Nature of contaminant	Threshold limit (mg/m^3)
Particulate matter (<10 µm):	
Annual average	100
Average maximum in 24 hours	500
Nitrogen oxide as NO_2:	
Annual average	100
Average maximum in 24 hours	200
Sulphur dioxide	
Annual average	100
Average maximum in 24 hours	500

Table 5.5: Maximum sound levels

Terrain	Night-time (dB(A))	Daytime (dB(A))
Built-up residential areas with schools, hospitals or other sensitive teaching or health establishments	40	45
Areas with permanent commercial activities, hunting, fishing or other recreational activities	50	55
Areas with mostly industrial or agricultural activities	70	70

Where no DRC standards exist, MENCT will adopt the World Bank and World Health Organization guidelines. However, a partnership is being developed between the Congolese Office for Quality Control and Standards and MENCT to develop more national standards.

5.4 EIA procedural framework for mining in the DRC

5.4.1 Steps to be taken in terms of the Environmental Protection Act

The steps, methods and procedures to be followed in preparing an ESIS and EMP will be set out in future decrees. At present, the only detailed steps to carry out an environmental assessment and to prepare an environmental management plan are contained in the Mining Code and its associated Regulations.

5.4.2 Steps to be taken in terms of the Mining Code

With the exception of the temporary exploitation of quarries, all mining operations require an EIS and an EMPP to be approved before operations can commence, in accordance with the provisions of Chapter V of the Mining Regulations.

The EIS and the EMPP must be submitted at the same time as the request for mining rights and must be approved by the competent authority as a condition of granting the mining rights.[12]

Prospecting for minerals and an application for a Temporary Quarry Exploitation Licence require only an MRP to be compiled.

Environmental Impact Study

Annex IX of the Mining Regulations provides detailed guidelines and requirements for the preparation of an EIS. The applicant for a Mining or Quarrying Exploitation Licence must compile the EIS and EMPP according to the form and content defined in the Mining Regulations and the annexes to the Regulations.

The EIS must include the following information (note that the Regulations and the annexes provide exhaustive details of what should be addressed in the EIS and the list below is merely a summary of the requirements):

Identification of the project and proponent:

- Name, contact and business details of the mining (or quarrying) company, and any mining subcontractors, if used;
- Name and contact details of the company that compiled the EIS;
- The nature of the mining right required;
- A map at a scale of 1:20 000 showing the coordinates of the mining area; and
- All landowners within and around the mining right area, identified and shown on a 1:20 000 scale map.

Detailed description of the project:

- Nature and extent of the mineral deposit;
- Mining methods, volumes expected, quantities of overburden to be removed, location of ore stockpile sites, explosives to be used, blasting details, mining equipment schedules, etc.;
- Site clearance works, including removal of vegetation, cut and fill, blasting, schedule of equipment etc.;
- Methods of mineral treatment and processing, including the basic processing method, location of the plant(s), types of equipment and plant to be used, chemical agents, hydrocarbons and lubricants, all emissions and effluents, solid and liquid waste disposal, etc.;
- Proposed mine dewatering programme, including nature and number of pumps, volumes to be pumped, quality of the water to be pumped from underground, and possible utilisation of pumped water and the discharge of such water;
- Effluent treatment programme, including volumes, sources and description of the effluent discharge sites, whether into natural watercourses (aquatic environment) or constructed effluent dams or evaporation ponds;
- Water consumption: all points of demand, volumes, sources of freshwater, recycling opportunities, clean storm water runoff management, as well as a water demand management plan aimed at reducing the amount of freshwater consumed and maximising the amount of recycling and reuse of water on the mine;
- A plan showing the location of all mine infrastructure, such as the process plant, ore stockpile sites, conveyors, compressors, smoke stacks, water treatment plants, workshops and garages, storage areas for chemicals and explosives, all pipelines, power lines, substations, mine haul roads and mineral transfer routes, waste disposal sites, storm water management systems, sewerage pipes and treatment plant, tailings and slimes dams, final effluent treatment and disposal infrastructure, and all underground structures; and
- Geochemistry of the ore and waste products, especially those that contain sulphides and other acid-producing minerals.

Detailed environmental description of the mining rights area and surroundings:
Where possible, the EIA study team must use existing plans, such as the biodiversity plan, and/or published research on the area in question. If there is no existing data, the consultants are required to conduct new studies according to the methods and techniques described in the Regulations and Annex IX. The EIA must include the following:

- Topography, geology and soil utilisation;
- Climate and air quality;
- Water resources;
- Hydrogeology, including modelling of contaminants and flows;
- Terrestrial fauna and birds, including habitat on site and migration patterns;
- Vegetation mapping with identification of different ecosystems and of rare and protected species; and
- Identification of sensitive environments on and adjacent to the site.

Detailed socio-economic description:

- Identification of all settlements on and around the site, including the local government authorities;
- Sources of income of the local communities;
- Demographic profile of all affected parties;
- Current levels and sectors of employment; and
- Tracks and paths used by the local communities through the mining area.

12 Article 406 of the Mining Regulations.

Impact assessment: Annex IX provides details regarding the analysis of impacts that should be undertaken and requires that for every aspect of the operation, the consultant must identify the positive and negative impacts, the direct and indirect impacts, and the risks associated with those impacts on the environment of the site and in the surrounding areas.

Each impact must be evaluated in terms of:

- The intensity and scale of the impact, based on the degree of environmental perturbation, environmental sensitivity, vulnerability, uniqueness or rarity of the component being affected;
- The spatial extent of the impact;
- The duration of the impact and its reversibility;
- The frequency of the impact and its probability of occurrence;
- The level of uncertainty or confidence in the prediction;
- Benefits for the affected parties and risks to the safety and wellbeing of these communities; and
- The cumulative effects of the proposed development and others in the vicinity.

The analysis of impacts should include at least the following: noise and vibration, air quality, surface and groundwater resources, community health and the risk of accidents.

EMPP and MRP

Title V of Annex IX of the Mining Regulations spells out in detail the contents of the EMPP and the MRP. The holder of, or applicant for, a mining right must present a mitigation and/or rehabilitation plan for each negative impact identified in the EIS for each phase of the project. If possible, alternative measures should be provided and an analysis made of the residual impacts after mitigation has been applied.

The EMPP/MRP must address the following in detail:

- Noise attenuation;
- Control of vibrations;
- Air emissions;
- Water pollution;
- Soil degradation;
- Rehabilitation of mine wastes and residues;
- Worker safety and occupational health;
- Safety and health of affected parties and local communities in the areas surrounding the mine;
- Emergency plans; and
- A closure plan detailing the measures to be undertaken to eliminate the risks to the health and safety of people, to limit the production and propagation of harmful substances into the receiving environment, such as acid mine drainage, and to leave the mine site in a state acceptable to the local community and compatible with some future land use. The details of the closure plan are set out in Articles 95–105 of Annex IX.

In addition to the EMPP/MRP, the holder of, or applicant for, a mining right must submit a detailed budget and financial plan to implement the EMPP/MRP.

Public consultation programme

The public consultation programme should be conducted during the drafting of the EIS in order to provide the public with information about the project and to obtain their comments. The principles, methods and programme of consultation of interested and affected parties must be described in an annex attached to the EIS. The annex report should include details about the meetings held, attendance and location of the meetings, questions raised and answers provided, as well as the author's conclusions about the consultation programme.

Submission and review of EIA and EMPP

In accordance with the provisions of Article 15 of the Mining Code and the provisions concerning each type of mining and/or quarry right, the DPEM evaluates the EIS and the EMPP/MRP.[13] At the end of the evaluation, it provides its opinion on the environmental aspects to the Mining Registry, within the deadline or period set out for each type of mining and/or quarry right.

Within a maximum of *five working days* following receipt of the opinion on the environmental aspects, the Mining Registry will do the following:

a) Display the opinion on environment aspects provided by the DPEM, at the premises set forth in the Mining Regulations (a copy of the opinion on the environmental aspects is provided to the applicant).
b) Send the file relating to the application, including the opinions of the Registrar and Department, to the competent authority for a decision (Article 42).

Upon receiving the file relating to the application, together with an opinion from the Registrar, the competent authority makes its decision in favour of granting the rights or not, and sends it to the Mining Registry within the specified period for a decision on each type of application for mining or quarry rights (Article 43).

The environmental evaluation of the EIS and the EMPP/MRP relating to an application for an Exploitation Licence must be carried out within a period not exceeding *180 working days* from the date that the Mining Registry Directorate sends the file containing the application to the DPEM (Article 75).

13 This will now change with the introduction of the EPA.

The licence is renewable for successive periods of 15 years if the holder, inter alia, obtains approval for an updated EIS and EMMP/MRP. The period allowed for the environmental evaluation for the approval of the update of the EIS and EMMP/MRP cannot exceed *90 working days*, calculated from the date the Mining Registry sends the file to the DPEM (Article 80).

After the evaluation, the Mining Registry sends the application file, together with the technical opinion of the Directorate of Mines, to the Minister within a maximum of five working days from the time the environmental opinion is received.

5.5 Other relevant environmental legislation in the DRC

As noted, legislation concerning the environment in the DRC is spread between a number of ministries and laws. Both the ministries and the laws are frequently changed and, therefore, the following is merely a guide to possible relevant legislation. The reader is urged to check the latest situation.

Table 5.6: Other potentially applicable sectoral legislation

Aspect	Ministry	Agency/Department	Relevant legislation	Comments
General environment	MENCT	GEEC	National Environmental Action Plan	Defines all the actions required to implement better environmental management at national level in line with Agenda 21.
			Decree No. 002 of 18 March 1997	Provides for the creation, organisation and operation of a national network for environmental information (Réseau National pour l'Information Environnementale).
			Ministerial Order (Arrêté Ministériel) No. 043 of 8 December 2006	Requires an EIA for all projects.
			Environmental Protection Act, No. 11/009 of 9 July 2011	Sets out the fundamental principles relating to the protection of the environment, as well as the institutional framework and procedural mechanisms for an environmental and social impact study. Also sets out the requirements relating to the management and conservation of natural resources, the prevention of pollution risk and pollution control.
Water resources (including the coastal zone, rivers, wetlands and lakes)	MENCT		Ordinance No. 52-443 of 21 December 1952	Contains measures to protect springs, groundwater aquifers, lakes and watercourses against pollution and water wastage and to control water rights.
Water supply infrastructure (dams and bulk water pipelines)	Ministry of Infrastructure, Public Works and Reconstruction		Ordinance No. 81/23 of 14 February 1981	Creates an action committee for water and sanitation.
Sanitation and wastewater treatment	Local government			

Table 5.6: Other potentially applicable sectoral legislation *(continued)*

Aspect	Ministry	Agency/Department	Relevant legislation	Comments
Water quality and pollution control	MENCT Mines		Draft Framework Law on the Environment	Makes provision for the conservation, management and utilisation of water for domestic, industrial and artisanal use.
			Ordinance No. 52-443 of 21 December 1952	Contains measures to protect springs, groundwater aquifers, lakes and watercourses against pollution and water wastage and to control water rights.
			Regulation on Lake and Watercourse Contamination and Pollution of 1 July 1914	Grants local authorities the power to determine the protection areas for streams, lakes and other water sources that may constitute a source of drinkable water.
Waste management • Hazardous • Non-hazardous	MENCT Local government		Draft Framework Law on the Environment	Makes provisions for the control of urban, industrial and medical wastes. All foreign waste is considered dangerous and the Act prohibits the sale, purchase, importation, transit or stockpiling of any nuclear or dangerous wastes from other countries.
Air quality and ozone-depleting substances	MENCT		Draft Framework Law on the Environment	Makes provision to protect air quality and prohibits the importation, manufacture and use of equipment that contains ozone-depleting substances.
	Mines		Mining Code, Law No. 007/2002 of 11 July 2002	Air quality guidelines are contained in the Regulations of the Mining Code.
Mines	Mines	DPEM	Mining Code, Law No. 007/2002 of 11 July 2002	Specifies the need for an EIS, MRP and EMPP.
			Mining Regulations, Decree No. 038/2003 of 26 March 2003	Sets out, inter alia, the contents of EIA and EMP reports.

Aspect	Ministry	Agency/Department	Relevant legislation	Comments
Artisanal mining	Mines	DPEM	Articles 416 and 417 of the Mining Regulations, Decree No. 038/2003 of 26 March 2003	Establishes a Code of Practice for artisanal mining and requires artisanal miners to contribute to the cost of rehabilitation.
Forests and forestry	MENCT	Department of Forests	Forest Code, Law No. 011/2002 of 29 August 2002	Sets out the law applicable to the conservation, exploitation and development of forestry resources. Stipulates the rules applicable to sylviculture, research, transformation and trade of forestry products, and promotes biodiversity and the protection of natural habitats, fauna and tourism.
Energy • Oil and gas exploration • Generation (hydroelectricity, etc.) • Renewables • Transmission • Distribution	Energy Société Nationale d'Électricité (SNEL)	National Commission of Energy	Code for Oil Exploitation, 2008	
Roads	Transport and Communication Routes		Decree No. 03/027 of 16 September 2003	Defines the allocation of roles between the Ministries of Roads and Infrastructure.
		Office of Highways (non-urban)	Ordinance No. 71-023 of 26 March 1971	Ordinance to create the Office of Highways (L'Office des Routes).
		Office of Roads and Drainage (urban)	Ordinance No. 87-331 of 16 September 1987	Ordinance to create the Office of Roads and Drainage (L'Office de Voiries et Drainage).
Agriculture and fisheries	Agriculture Rural Development *(responsible for all agricultural activity)*	Department of Agriculture Department of Fisherie		

Table 5.6: Other potentially applicable sectoral legislation *(continued)*

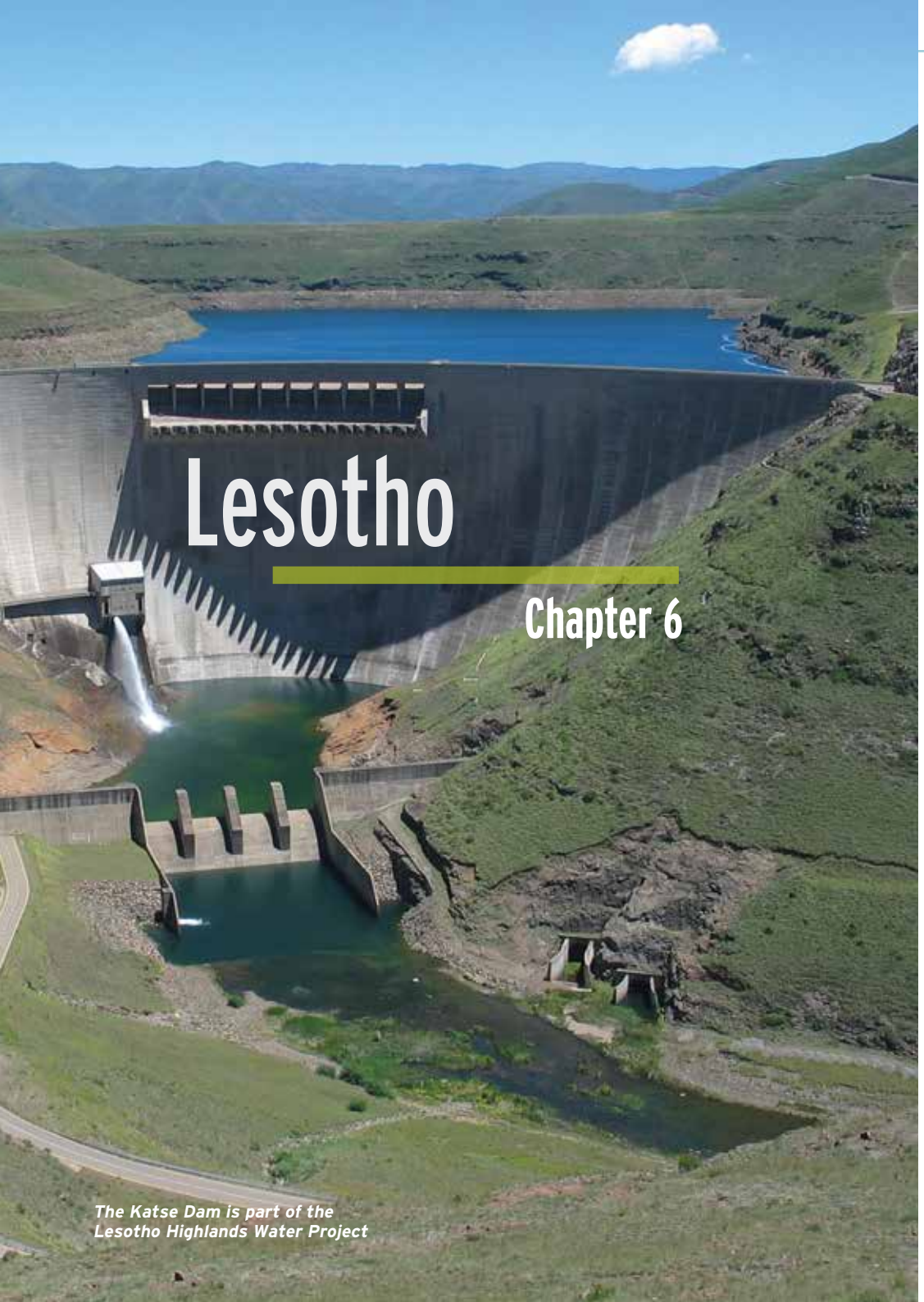
Aspect	Ministry	Agency/Department	Relevant legislation	Comments
Land management	Land Affairs *(responsible for land register)*			All land in the DRC is state-owned and has to be leased from the state.
Biodiversity protection and conservation	MENCT	ICCN	Regulation No. 69-041 of 22 August 1969	Nature conservation
			Ordinance No. 75-232 of 2 July 1975	Creates an interministerial committee for the environment, nature conservation and tourism.
			Ordinance No. 76-252 of 22 September 1976	Delegates certain services to the Department of Environment, Nature Conservation and Tourism.
			Ordinance No. 78-190 of 5 May 1978	Creates the ICCN.
Housing and urban development	Urban Planning and Housing			
Heritage resources	Art and Culture			
Transboundary issues	Foreign Affairs		Memorandum of Understanding between the States of the Congo Basin, July 1997	Provides for cooperation in the area of environmental information.

Acronyms

AIDS	acquired immune deficiency syndrome
DPEM	Direction chargée de la Protection de l'Environnement Minier (Department for the Protection of the Mining Environment)
DRC	Democratic Republic of Congo
EIA	environmental impact assessment
EIS	Environmental Impact Study
ESIS	Environmental and Social Impact Study
EMPP	Environmental Management Plan for the Project
GEEC	Groupe d'Etudes Environnementales du Congo (Group for Environmental Studies of Congo)
ICCN	Institute Congolaise pour la Conservation de la Nature (Congolese Institute for Nature Conservation)
MENCT	Ministry of Environment, Nature Conservation and Tourism
MRP	Mitigation and Rehabilitation Plan
NEAP	National Environmental Action Plan
SADC	Southern African Development Community
SNEL	Société Nationale d'Électricité
UNDP	United Nations Development Programme

Useful contacts

Department	Ministry	Telephone	Website
Group for Environmental Studies of Congo (GEEC)G	Ministry of Environment Nature Conservation and Tourism	+243 81 15 57 057	Abelleon_kalambayi@yahoo.fr



Lesotho

Chapter 6

The Katse Dam is part of the Lesotho Highlands Water Project

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Lesotho

6.1 Constitutional requirements for environmental protection in Lesotho

The mandate on the environment is derived from section 36 of the Constitution of Lesotho, which states that:

> *Lesotho shall adopt policies designed to protect and enhance the natural and cultural environment of Lesotho for the benefit of both present and future generations and shall endeavour to assure to all its citizens a sound and safe environment adequate for their health and well-being*[1]

Lesotho showed its commitment to the process of sound environmental planning in 1989 with the formulation of a National Environmental Action Plan (NEAP). The NEAP document provides for increased awareness of environmental concerns in sectoral planning and programming. Subsequent to the NEAP, the National Action Plan (NAP) to implement Agenda 21 was launched in May 1994. The aims of the NAP were to build on the foundations of the NEAP and incorporate sectoral priorities and national plans for implementing international conventions on biodiversity, climate change and desertification.

A National Vision for Lesotho has been developed through a consultative process, which further confirms the increasing prominence of sustainable development. The consultations are based on a commitment that:

> *by 2020, Lesotho shall be a stable democracy, a united, prosperous nation at peace with itself and its neighbours. It shall have a healthy and well-developed human resource base. Its economy will be strong, its environment well managed, and its technology well established.*[2]

The government endorses and adheres to the internationally accepted principles of the 1972 Stockholm Declaration and the 1992 Rio Declaration, as adopted by the United Nations Conferences. It is also signatory to the following international environmental conventions: the Convention on the Protection of Fauna and Flora, the Convention on Fishing and Conservation of the Living Resources of the High Seas, the Convention on Climate Change, the Convention on Biological Diversity, and the Montreal Protocol for the Protection of the Ozone Layer (see also Table 1.1 in Chapter 1 of this Handbook). Lesotho will continue to accede to other relevant internationally acceptable protocols.[3]

1 Kingdom of Lesotho, 1993. *The Constitution of Lesotho.* Maseru: Government Printer.
2 Kingdom of Lesotho, 2001. *Report of the First National Dialogue for the Development of a National Vision for Lesotho (Vision 2020).* Maseru: Government Printer.
3 Kingdom of Lesotho, 1998. *National Environmental Policy for Lesotho.* Maseru: Government Printer.

The government further endorses and adheres to regionally accepted principles contained in the Southern Africa Development Community (SADC) Policy and Strategy for Environment and Sustainable Development, the African Ministerial Conference on Environment, and similar programmes (see also Chapter 1 of this Handbook).

6.2 Institutional and administrative structure for environmental impact assessment in Lesotho

6.2.1 National Environmental Secretariat

In 1994, the National Environment Secretariat was created as a direct result of the recommendation made in the 1989 NEAP to establish an institutional framework for the management of environmental issues. In terms of the new Environment Act, 2008, the National Environment Secretariat is now known as the Department of Environment (DoE) and is responsible for administering environmental impact assessment (EIA) (see the next section).

6.2.2 Department of Environment

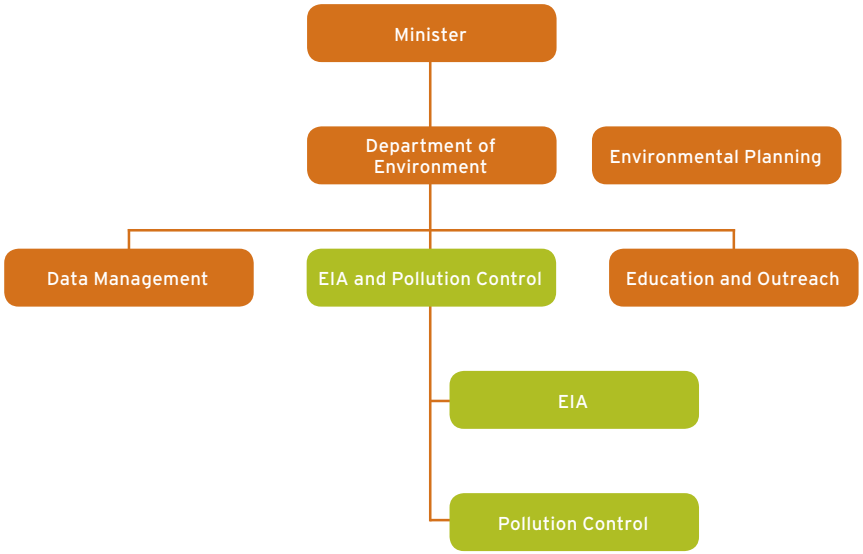
The DoE is the executive arm of the National Environment Council (when it is formed) and the principal agency responsible for managing the environment. While the DoE will be the sole legislated reviewer of EIAs, the Director of the DoE may delegate any of his/her functions to a line ministry, the Technical Advisory Committee (still to be formed) or any public officer.

Proposed new institutional structures

The Environment Act of 2008 proposes a new institutional structure. Under the new arrangements, a National Environment Council will be established, comprising several ministers and a wide cross-section of stakeholder representation. It will be chaired by the Minister responsible for the environment. The Council will have the responsibility for drafting environmental policy; harmonising policies, plans and activities of government departments; and ensuring coordination among stakeholders engaged in environmental protection.[4]

4 Other members are the Ministers of Tourism, Environment and Culture (Chairman); Trade, Industry and Marketing; Agriculture; Public Works; Local Government; Development Planning; Health and Social Welfare; Natural Resources; Forestry and Land Reclamation; and Science and Technology; the Principal Secretary; the Lesotho Council of Non-Governmental Organisations (one); the business community (one); the Lesotho National Council of Women (one); a registered youth organisation (one); and an environmental expert (one).

Figure 6.1: Organisational chart of the Department of Environment



Provision has also been made in the Environment Act for an Environmental Coordinating Committee, which will ensure maximum cooperation and coordination among the line ministries and other organisations dealing with environmental protection and management. It is further responsible for ensuring that information relating to environmental issues and the enforcement of environmental legislation and their responsibilities in this regard are understood. As of November 2011, this Committee was not yet in place.

6.2.3 Roles and responsibilities

Department of Environment (DoE)

The functions of the Director of the DoE include:

- Reviewing and approving Environmental Impact Statements (EISs);
- Identifying projects, policies, programmes and activities for which environmental assessments must be conducted;
- Monitoring and assessing projects and activities once implemented to ensure that they comply with stated environmental management objectives;
- Establishing environmental criteria, standards and guidelines; and
- Establishing guidelines and procedures for industry in order to minimise environmental damage.

Under the Act, some of these duties can be delegated to line ministries or public officers (see below).

District Environment Officer

A public officer, known as the District Environment Officer, will form part of each District Development Coordinating Committee and will be responsible for:

- Advising the Committee on all relevant environmental matters;
- Reporting to the Director on all matters relating to environmental protection, conservation and the sustainable use of natural resources in the district; and
- Promoting environmental awareness in the district.

Line ministry environmental units

The Environmental Act of 2008 requires each line ministry to establish an environmental unit. Each unit is responsible for the following (relating to EIA) within its ministry:

- Assuring compliance of that ministry with the Environment Act of 2008;
- Supervising the enforcement of any national environmental standards, guidelines, notices, orders and directives issued under environmental legislation;
- Conducting monitoring, testing and analysis to ensure compliance with environmental legislation; and
- Providing assistance to the DoE for reviewing relevant EIAs.

Environmental Tribunal

Section 98(1) of the Environmental Act of 2008 prescribes the establishment of an Environmental Tribunal. It consists of a senior legal practitioner, a legal practitioner with environmental knowledge, and a non-legal environmental expert. The Tribunal considers appeals based on the following:

- Issuing or refusing any licence under the Environmental Act;
- Imposing or failing to impose any condition, limitation or restriction contained within a licence;
- Revoking, suspending or implementing a variation to a licence; or
- Imposing a restoration order for environmental damage.

6.3 Policy and legal framework for EIA

6.3.1 National Environmental Policy, 1998

The overall goal of the National Environmental Policy is to achieve sustainable livelihoods and development for Lesotho. The objectives of the policy are as follows:

1. Secure for all Basotho a high quality of environment to enhance their health and wellbeing.
2. Raise public awareness and promote understanding of essential causal linkages between development and the environment, and ensure that environmental awareness is treated as an integral part of education at all levels.

3. Use and conserve the environment and natural resources for the benefit of present and future generations, taking into account the rate of population growth and productivity of the available resources.
4. Conserve the Basotho cultural heritage and utilise it for the benefit of the present and future generations.
5. Encourage and facilitate the participation of individuals, non-governmental organisations, communities, religious organisations and the business community in environmental management.
6. Halt environmental degradation; restore, maintain and enhance the ecosystems and ecological processes essential for the functioning of the biosphere; and preserve biological diversity.
7. Implement the principle of optimum sustainable yield in the use of natural resources and ecosystems.
8. Foster community management and revenue sharing from the sustainable utilisation of natural resources on customary and public land.
9. Put in place comprehensive environmental regulatory measures to stimulate sustainable economic and social development. Such development will be complemented by social and economic incentives to influence positive behaviour towards the environment.
10. Set up comprehensive programmes of resource inventorying and accounting, complemented by regular and accurate environmental assessment, monitoring and dissemination of information to all sectors of society.
11. Ensure that the true and total costs of environmental use and abuse are borne by the user, i.e. the polluter pays principle.
12. Enact and implement a land tenure policy that enhances sustainable natural resource management.
13. Empower women to play a key role in natural resource use and management activities.
14. Cooperate in good faith with other countries in the SADC region and in Africa, and with international organisations and agencies to achieve optimal use of transboundary shared natural resources and effective prevention or abatement of transboundary environmental impacts.[5]

This Environmental Policy relates directly to Lesotho's national development priorities. It focuses on the social and economic dimensions, the management and conservation of natural resources, and the promotion of community participation.

One of the main strategies for integrating the environment and development into decision-making and achieving sustainable development is to develop a system and guidelines for EIAs, audits, monitoring and evaluation, so that adverse environmental impacts can be eliminated or mitigated and environmental benefits enhanced.

5 National Environmental Policy for Lesotho, 1998.

The guiding principles for EIA, audits and monitoring are set out in section 4.22 of the National Environmental Policy:

1. EIAs are deemed necessary to ensure that development options for the public and business sector are environmentally sound and sustainable, and that any environmental consequences are recognised early and considered in project design.
2. EIAs will not only consider biophysical impacts but will also address environmental impacts in terms of existing social, economic, political and cultural conditions.
3. Environmental mitigation plans will be required for all activities where the EIA has determined a negative environmental threshold.
4. Environmental audits, including inspections, recordkeeping and monitoring, will be required for activities as determined by the mitigation plans or otherwise.
5. EIA and EIS shall be made public and public comments on them invited and taken into consideration.
6. EIA procedures should be cost-effective, appropriate, reasonable and commensurate with the size, scope and relative impacts of the project or programme in question.

The strategies identified in the National Environmental Policy to implement the principles set out above include the following:

1. Develop guidelines and set standards for EIAs.
2. Notify, by Government Gazette, the types and sizes of projects for which EIA may be required.
3. Require any person or private or public organisation desiring to develop a project for which an EIA may be required to submit a Project Brief.
4. Prescribe guidelines and regulations concerning the preparation of EISs, audits, monitoring and evaluation.
5. Review EISs and take the necessary actions to ensure that no projects proceed that may cause significant and irreparable damage to the environment.

6.3.2 Environment Act, No. 10 of 2008

The aim of the Environment Act of 2008 is to provide a framework environmental law for the implementation of the National Environment Policy. The Environment Act is founded on 16 principles of environmental management, as set out in Part II, section 3(2) of the Act. The principles that apply in the context of this report include the following:

a) Assure every person living in Lesotho the fundamental right to a clean and healthy environment.
b) Ensure that sustainable development is achieved through the sound management of the environment.
c) Encourage participation by the people of Lesotho in the development of policies, plans and processes for the management of the environment.
d) Require prior EIA of proposed projects or activities that are likely to have adverse effects on the environment or natural resources.
e) Ensure that environmental awareness is treated as an integral part of education at all levels.
f) Ensure that the costs of environmental abuse or impairment are borne by the polluter.
g) Promote cooperation with other governments and relevant national, international and regional organisations and other bodies concerned with the protection of the environment.

As can be seen from point d) above, the Act provides for an EIA to be conducted prior to project authorisation and for compliance auditing to be undertaken during and after construction to monitor the effects of the activity on the environment. Unfortunately, implementation of the Act has been slow and it is not yet in full operation.

The Environment Act defines the term 'environment' as 'the physical factors of the surroundings of the human beings (sic) including land, water, atmosphere, climate, sound, odour, taste, biological factors of animals and plants and the social factors of aesthetics and includes both natural and built environment'. Thus, the term does not include humans per se, merely their surroundings and aesthetic factors.[6] This opens it up to a legal challenge on the basis that the social, economic, cultural, heritage and health environments need not be addressed in an EIA.

However, no such distinction is made in either the National Environmental Policy (section 4.22(2)) or in the EIA Guidelines, where the term 'environment' is defined as follows:

The physical, biological, social, economic, cultural, historical and political factors of the surroundings of human beings, including land, water, atmosphere, climate, sound, odour, taste and the biological factors of flora and fauna. It includes both the natural and built environments. It also includes human health and welfare. Alternatively, the external circumstances, conditions and objects that affect the existence and development of an individual, organism or group. These circumstances include biophysical, social, economic, historical, cultural and political aspects.[7]

This latter definition is far more encompassing than that of the Act and specifically refers to human health and welfare. While this is more in line with generally accepted definitions of the term 'environment', the Act, and not the Guidelines, is the legal document.

The EIA procedures to be followed are set out in detail in section 6.4.

6.3.3 Regulations and guidelines

While section 113 of the Act allows the Minister to make regulations on, inter alia, EIAs, no regulations to this effect have yet been made. However, EIA Guidelines were drafted in 2002 and formalised in 2009. *The Guidelines for Environmental Impact Assessment in Lesotho* (2009) set out the steps to be taken in carrying out the EIA process, and the DoE uses this document in reviewing the EIA process. Care should be taken when using these Guidelines because some changes in EIA procedures were introduced with the Environment Act of 2008, which were not reflected in the 2009 Guidelines. Furthermore, the relevant clauses of the Act referred to in the 2009 Guidelines have not been updated to the 2008 Act, and there are some discrepancies between the Guidelines and the Act.

Sectoral guidelines (specific guidelines for special types of projects or industries, such as urban infrastructure, dams, roads or mining) have been compiled to support the DoE in its reviewing and decision-making. It is expected that, as experience with EIA grows in Lesotho, relevant changes may be made to bring them into line with evolving good practices and new or changing conditions specific to Lesotho.

6.3.4 Permits and licences

Section 25(1) of the Environment Act of 2008 states that no person shall operate, execute or carry out a project or activity specified in the First Schedule (see Appendix 6-1) without an *EIA Licence* issued by the DoE. In issuing a licence, the environmental authority must issue a Record of Decision, which should include:
a) The decision of the Director of the DoE;
b) Key factors that influenced the decision, including responses to material issues raised by any person during the EIA process;
c) The date of the decision;
d) A copy of the EIA Licence, if issued;

6 Aesthetic factors include aspects of perceived environmental quality, e.g. a beautiful view.

7 DoE (Department of Environment), 2009. *Guidelines for environmental impact assessment in Lesotho.* Maseru: DoE.

e) Information on the right of any person to seek reconsideration of the decision of the Director and how such reconsideration may be sought (section 25(3) of the Act).

If, after an EIA Licence has been issued, there is a substantial change to the project or a significant environmental threat materialises that was not envisaged at the time of the EIA, the Director of the DoE can request the developer to submit a new EIS (section 26 of the Act). Failure to comply with the direction issued in this regard may result in a fine of M5000, two years' imprisonment, or both, and the cancellation of the EIA Licence.

An EIA Licence can be transferred to another party only in respect of the same project that was originally authorised (section 27 of the Act).

Other environmental permits and licences required in terms of the Environment Act are listed in Table 6.1.

Table 6.1: Environmental permits and licences

Act, Regulation or Bylaw	Permit or licence	Requirements	Penalty for non-compliance	Implementing agency
Section 40 of the Environment Act	Effluent licence	Licence to discharge effluent into the sewage system Validity: One year Fee: As prescribed	M5 000 fine, two years imprisonment, or both. Cancellation of licence.	DoE
Section 44 of the Environment Act	Pollution licence	Licence to emit any gas, dust or smoke or any other atmospheric pollutant in excess of the prescribed standards Validity: One year Fee: As prescribed	M10 000, three years imprisonment, or both. Cancellation of licence.	DoE
Section 47 of the Environment Act	Noise permit	Permit to allow excessive emission of noise (in excess of the noise emission standards) Validity: Not specified Fee: As prescribed	M5 000 fine, two years imprisonment, or both. Cancellation of licence.	DoE
Section 49 of the Environment Act	Ionising radiation licence	Licence to import, process, mine, export, possess, transport, use or dispose of radioactive materials or other sources of dangerous radiation Validity: One year Fee: As prescribed	M5 000 fine, two years imprisonment, or both. Cancellation of licence.	DoE
Section 76 of the Environment Act	Waste licence	Licence to own or operate a waste disposal site or plant, *other than* domestic waste, generate, store, handle, transport or dispose of hazardous waste Validity: One year Fee: As prescribed	M5 000 fine, two years imprisonment, or both. Cancellation of licence.	DoE
Mines and Minerals Act, 2005	Mining (or quarrying) licence	EIA a prerequisite for obtaining mining rights		Ministry of Natural Resources
Municipal bylaws	Building permit	Have to fulfil all environmental requirements and include the EIA Licence in the application for a permit		Municipalities and Ministry of Local Government

6.3.5 Offences and penalties

Part XV of the Environment Act sets out the penalties for non-compliance with any of the provisions of the Environment Act. Section 114 sets out those penalties for non-compliance with any of the EIA provisions, as follows:

Any person who:
a) Fails to submit a Project Brief, contrary to section 28;
b) Fails to prepare an EIS, contrary to sections 29 and 34; or
c) Fraudulently makes a false statement on an EIS submitted under section 29,
commits an offence and is liable, on conviction, to imprisonment for a period not exceeding ten years, or to a fine not exceeding M100 000, or to both.

Where the offence has been committed by corporations and partnerships, the provisions of section 119 shall apply.

Additional penalties for non-compliance with any of the other permits or licences are listed in Table 6.1.

6.3.6 Fees

At present, there are no prescribed fees for an EIA review by the DoE.

6.3.7 Environmental standards

The Environment Act makes provision for environmental standards to be set for water quality, air quality, waste, soil quality, noise, ionising and other radiation, noxious smells and any other environmental parameters as the authorities may determine in future. Currently, air quality standards and water quality

standards for industrial effluent and potable water have been drafted and are being used as working documents. They have not yet been gazetted. The draft standards on water quality are presented in Tables 6.2 and 6.3. In the absence of local standards, developers should refer to the World Health Organization, the World Bank and/or donor country standards.

Table 6.2: Draft industrial effluent discharge standard

Determinant	Unit	Recommended limit	Maximum permissible limit	Crisis limit
Colour	Mg/l Pt	20	Not specified	Not specified
Electrical conductivity	MS/m (25°C)	70	300	400
Odour	Ton	1	5	10
Oxygen dissolved	% saturation	70% min.	30% min.	10% min.
pH	pH unit	6.0 - 9.0	5.5 - 9.5	4.0/>11.0
Taste	TTN	1	5	10
Temperature	°C	25°C max.	40°C max.	40°C max.
Turbidity	NTU	1.0	5.0	10.0
Chloride	Mg/l Cl	250	600	1200
Chlorine, free residual	Mg/l Cl	0.2 - 0.5	<0.2 - <5.0	-
Ammonia	Mg/l N	1.0	2.0	4.0
Calcium	Mg/l Ca	150	200	400
Fluoride	Mg/l F	1.0	1.5	3.0
Hardness	Mg/l $CaCO^3$	300 max.	650 max.	1 300 max.
Lithium	Mg/l Li	2.5	5.0	10.0
Magnesium	Mg/l Mg	70	100	200
Nitrate	Mg/l N	6.0	10.0	20.0
Potassium	Mg/l K	200	400	800
Sodium	Mg/l Na	100	400	800
Aluminium	µg/l Al	150	500	1 000
Antimony	µg/l Sb	50	100	200
Arsenic	µg/l As	100	300	600
Barium	µg/l Ba	500	1 000	2 000
Beryllium	µg/l Be	2	5	10
Bismuth	µg/l Bi	250	500	1 000
Boron	µg/l B	500	2 000	4 000
Bromide	µg/l Br	1 000	3 000	6 000
Cadmium	µg/l Cd	10	20	40
Cerium	µg/l Ce	1 000	2 000	4 000
Chromium	µg/l Cr	100	200	400
Cobalt	µg/l Co	250	500	1 000
Cyanide, free	µg/l CN	200	300	600
Gold	µg/l Au	2	5	10
Iodide	µg/l I	500	1 000	2 000
Lead	µg/l Pb	50	100	200
Mercury	µg/l Hg	5	10	20
Molybdenum	µg/l Mo	50	100	200
Nickel	µg/l Ni	250	500	1 000
Selenium	µg/l Se	20	50	100
Silver	µg/l Ag	20	50	100
Tellurium	µg/l Te	2	5	10
Thallium	µg/l Tl	5	10	20
Tin	µg/l Sn	100	200	400
Titanium	µg/l Ti	100	5 000	1 000
Tungsten	µg/l W	100	5 000	1 000
Uranium	µg/l U	1 000	4 000	8 000
Vanadium	µg/l V	250	500	1 000

NTU: nephelometric turbidity units
TTN: threshold taste number

Table 6.3: Draft potable water standards

Water quality constituent	Guideline for domestic use
Algae	0 - 5mg/l chlorophyll a
Aluminium	0 - 0.15 mg/l
Coliphages	<1 per 100 ml
Dissolved organic carbon	0 - 5 mg/l C
Electrical conductivity	0 - 70 mS/m
Enteric viruses	<1 TCID50/10 litres
Faecal coliforms	0 per 100 ml
Fluoride	0 - 1.0 mg/l
Iron	0 - 0.1 mg/l
Manganese	0 - 0.05 mg/l

Table 6.3: Draft potable water standards *(continued)*

Water quality constituent	Guideline for domestic use
Manganese	0 – 0.05 mg/l
Mercury	0 – 0.0005 mg/l
Nitrate/nitrite	0 – 6 mg/l N
Odour	TON = 1
pH	6.0 – 9.0
Protozoan parasites	<1 Giardia cyst/10 litres
Total hardness	<100 mg/l $CaCO_3$
Turbidity	0 – 1 NTU

TCID: tissue culture infective dose
TON: threshold odour number
NTU: nephelometric turbidity unit

6.3.8 Certification of consultants

In terms of section 113(j) of the Environment Act of 2008, the Minister may make regulations to *'provide for the conduct and certification of environmental practitioners'*. In anticipation of the Bill being enacted, the then National Environment Secretariat embarked on a consultative programme in 2007 regarding the establishment of a national registration and certification scheme for EIA practitioners. This scheme would mean that only certified practitioners would be able to undertake EIAs in Lesotho, but it is likely to be reciprocal (i.e. recognising certified consultants from other countries). The establishment of this scheme has been delayed and the date of implementation is unknown.

In the meantime, the EIS must be undertaken by experts whose names and qualifications are approved by the DoE. There is no need, under current legislation, for the EA consultants to be independent of the proponent.

6.4 EIA procedural framework in Lesotho

The steps to be taken in the EIA process are set out in detail in the draft EIA Guidelines for Lesotho referred to above. The procedures and steps are shown in Figure 6.2 and summarised below.

6.4.1 Screening

A list of types of projects and activities that are subject to EIA in terms of section 19(1) of the Environment Act of 2008 is set out in Part A of the First Schedule to that Act. Hence, the first step in determining whether a project or activity is subject to EIA is to consult the Schedule, attached in Appendix 6-1 of this Handbook.

A strategic environmental assessment must be undertaken for any policy, plan or programme that may have a significant impact on the environment (Part B of the First Schedule). However, the processes, procedures, roles, responsibilities and content relating to the compilation and submission of such an assessment are not elaborated upon in either the Environmental Act or the Guidelines.

It is strongly recommended that developers consult with the relevant line ministry or the DoE at the outset of project planning and design in order to ensure that the scope of the EIA investigation is commensurate with the scale, nature and location of the project. An additional benefit of holding these informal discussions is the identification of all the relevant legal, policy and administrative issues pertaining to the project.

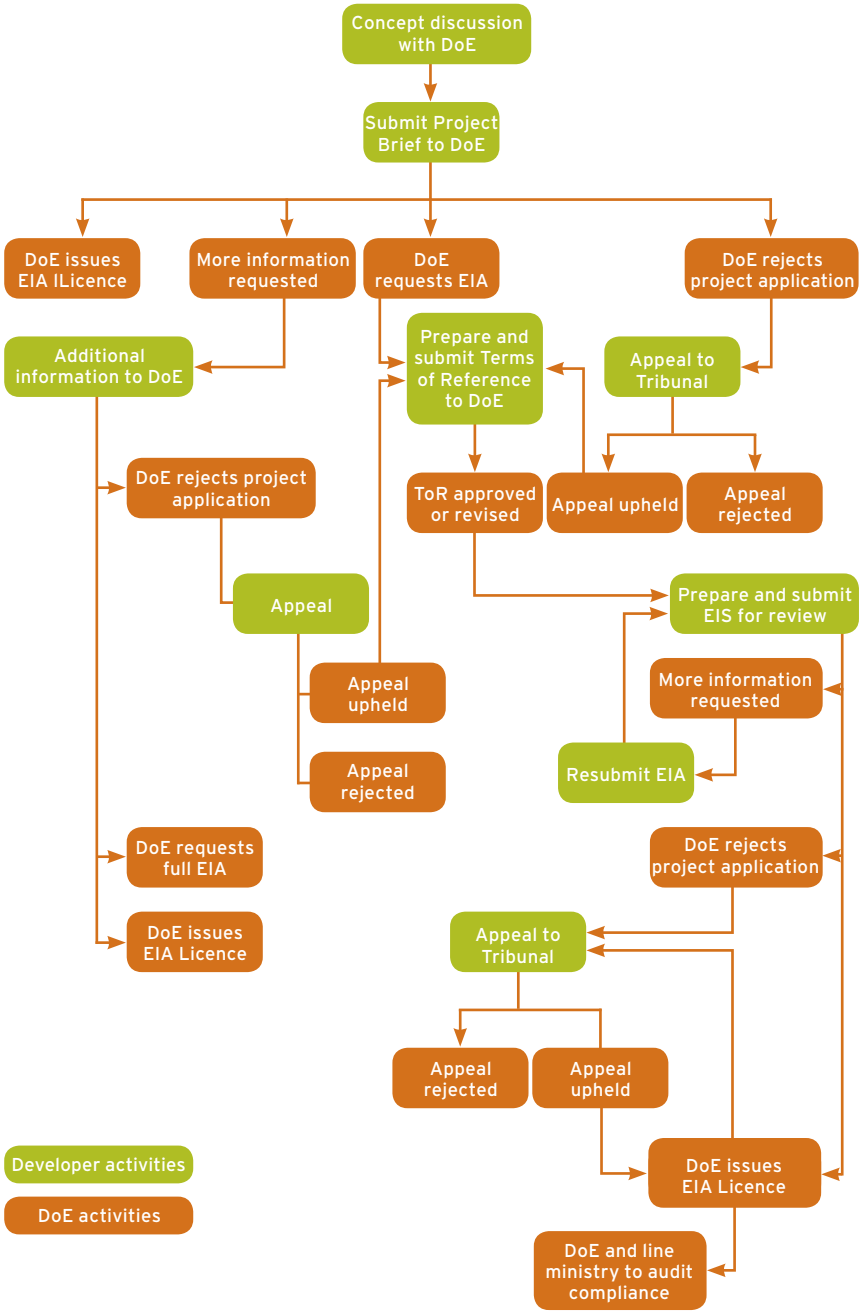
6.4.2 Project Brief

Any person intending to initiate an activity listed in the Schedule[8] is obliged to obtain an EIA Licence before commencing a development or construction. The first step in the application for an EIA Licence is the submission of a Project Brief, as prescribed in section 20(1).

The Project Brief submitted by the developer will form the basis for classifying projects as either projects or activities not requiring a full EIS (in which case they will be authorised to proceed by the issuance of an EIA Licence), or as projects or activities requiring a full EIS. Thus, the Project Brief is essentially a scoping document to allow the authorities to determine whether there is a need for a full EIA. Interestingly, the list of contents for a Project Brief contained in the Act *does not* include any reference to the need for public participation. However, the EIA Guidelines (see section 6.3.3) clearly state that the Project Brief should, at a minimum, include a list of the interested and affected parties or individuals identified and/or consulted, and also provides further guidance on the mode of public participation. Another weakness here is that the consultants are not required to include unedited public submissions in their reports

8 Note that this Schedule of projects and activities for which an EIA Licence is required may be amended from time to time by the Minister, on the recommendation of the DoE, by publication in the Government Gazette.

Figure 6.2: EIA process



In terms of section 20(1) of the Act, the Project Brief must, at a minimum, state the following:

a) The nature of the project;
b) The activities to be undertaken;
c) The possible products or by-products anticipated and their environmental consequences;
d) The number of people the project is likely to employ;
e) The area of land, air or water that may be affected;
f) Any other matters that may be prescribed; and
g) Any other matters as the Director may, in writing, require from the developer or any other person whom the Director reasonably believes has information relating to the project.

Once the Director has received and reviewed the Project Brief, s/he will make one of four decisions (see Figure 6.2):

- Request further information from the developer or project proponent.
- Approve the project with conditions as appropriate.
- Invite written and oral comments from the public and, where necessary, consult the affected community, if the Director is of the view that the proposed project could have a significant impact on the environment.
- Request an EIA to be conducted.

6.4.3 Environmental Impact Statement

Once the Project Brief has been undertaken, submitted and reviewed, the proponent may be asked to undertake an EIS. This has to be done by experts approved by the Director after consultation with the relevant line ministry (section 21(7)). The costs of conducting the EIS are borne by the developer and the report must include the following:

a) A detailed description of the project and its activities;
b) A description of the environment that may potentially be affected, including specific information necessary for identifying and assessing the environmental effects of the proposed project;
c) A description of the technology, method and processes to be used in the implementation of the project, including the main alternatives and reasons for declining to use those alternatives;
d) Reasons for selecting the proposed site and rejecting alternatives;
e) Environmental impacts, including direct, indirect, cumulative, and short and long-term effects of the project;
f) An identification and description of measures proposed for eliminating, minimising or mitigating the anticipated adverse effects of the project on the environment;

g) An indication of whether the environment of any other state or area beyond the limits of national jurisdiction is likely to be affected and the mitigating measures to be undertaken;
h) A brief description of how the information in the EIS report has been generated, such as methodology, survey techniques and modelling parameters;
i) An identification of gaps in knowledge and uncertainties encountered in completing the EIS;
j) The social, economic and cultural effects of the development or project;
k) The irreversible and irretrievable commitment of resources that will be used by the project if it is implemented in the manner proposed by the developer;
l) A comprehensive mitigation plan, which includes a description of the mitigation measures that will be implemented in order to prevent, reduce or otherwise manage the environmental effects of the project, an indication of how these measures will be implemented, and any other information that may be required; and
m) Any other matters that the Minister may prescribe.

The information in the EIS must be up to date and reflect all relevant aspects outlined above.

There is no mention in the 2008 Act or the 2009 Guidelines of transboundary impacts or how they should be addressed, irrespective of policy objective (14) (see section 6.3.1 above).

6.4.4 Submission and review of the EIS

The Director will study the EIS in consultation with the responsible line ministry. If it is complete in both form and content, s/he will invite public comments on the EIS in general, or specifically invite those persons who will most likely be affected by the project to make comments. The Director may also decide to hold a public hearing for the affected parties. This is not considered best practice, and any project requiring funding from an international development finance institution (e.g. the World Bank or the Development Bank of Southern Africa), an Equator Principles bank (e.g. Nedbank or HSBC) or a development aid institution (e.g. the Millennium Challenge Corporation or the United Nations Development Programme (UNDP)) would need a full public consultation process.

In the event that the EIS is not adequate, the DoE may require the developer to perform additional investigations or analysis or collect further information, which may include additional public participation. The DoE can only make a decision based on an adequate and complete EIS. The new information or analysis must be submitted as amendments to the original EIS.

The EIA Licence may contain terms and conditions necessary to mitigate negative impacts and promote sound environmental management practices. The terms and conditions will be set in accordance with planning, policy, legal and administrative requirements. These will be clearly specified in the EIA Licence. The Record of Decision (of approval or rejection) must include:

- The decision of the Director;
- Key factors that influenced the decision, including responses to material issues raised by any person during the EIA process;
- The date of the decision;
- A copy of the EIA Licence (if issued); and
- Information with respect to the right of any person to seek reconsideration of the decision by the Director and how such reconsideration may be sought.

The Act makes provision for the Director of the DoE to use external reviewers to assess EIAs. This modality is already being used in a limited way by the Department, with recent examples including the Kao Diamond Mine and the Lesotho Lowlands Bulk Water Supply Scheme: Northern, Central, and Southern Regions. However, it could be used more extensively as a bridging tool until greater capacity is established within the DoE.

6.4.5 Appeals

Anyone aggrieved by a decision made by the DoE may, *within 30 days* of being informed of that decision, request in writing that the DoE reconsiders its decision. The request for appeal must set forth clear reasons for this request (section 25(5)).

The option for appeal is open to both the developer and the general public to present arguments, reasons or grounds as to why the decision, in the opinion of the complainant, is not correct or why the conditions should be amended.

The Director must, *within 30 days* of receipt of a request for reconsideration, issue a Record of Decision affirming, modifying or reversing its earlier decision. Submission of an administrative request for reconsideration is a prerequisite for taking a judicial appeal to the Environmental Tribunal or even further.

[Environment Act, section 100]
If the complainant is still not satisfied after receiving a response from the DoE on the reconsideration of the decision, an appeal could be forwarded to the Environmental Tribunal *within 21 days* of the date of the decision of reconsideration.

[Environment Act, section 100(2)]
The appeal shall be a written notice, stating the grounds upon which the appeal is based. It must be forwarded to the secretary of the Environmental Tribunal.

[Environment Act, section 100(3)]
If the complainant is aggrieved by the decision of the Environmental Tribunal, s/he may appeal to the High Court *within 30 days* from the date of the decision of the Tribunal.

6.4.6 Monitoring and auditing

Sections 23 and 24 of the Act set out the tasks to be undertaken by the DoE and relevant line ministries to monitor and audit project sites, and the sanctions that can be taken in the event of non-compliance.

Even though the DoE, or the designated environmental unit in another line ministry, is responsible for conducting compliance monitoring and auditing of projects for which it has issued an EIA Licence, very little follow-up work is actually conducted. At least one monitoring visit per year tends to be conducted for Category A projects, but few monitoring visits take place for Category B and C projects. The penalties for non-compliance with environmental management plans are set at such low levels and the likelihood of detection is so small that it is often more cost-effective for proponents simply to ignore the mitigation measures in their environmental management plans and pay any fines that accrue.

6.5 Other relevant environmental legislation in Lesotho

Environmental issues cut across a range of sectors, and numerous pieces of legislation in Lesotho have a bearing on the environment and should be considered in EIA decision-making. The sectors, titles of the legislative instruments, the responsible agency and the purpose of the legislation are summarised in Table 6.4.

Table 6.4: Other potentially applicable sectoral requirements[9]

Environmental component	Responsible agency	Title and date of legislation	Purpose
Water resources (use of)	Ministry of Natural Resources: Water and Sewerage Authority Department of Water Affairs	Water Act, No. 15 of 2008 Water Resources Regulations, 1980	This Act relates to the issuance of Water Use Permits.
Effluent (disposal)	Ministry of Natural Resources: Water and Sewerage Authority DoE	Water Act, No. 15 of 2008 Water Resources Regulations, 1980 Environment Act, No. 10 of 2008	This Act relates to the prevention of pollution. The Act makes provision for the management of effluent and the development of standards for effluent discharges. Section 40 states that an Effluent Discharge Licence is required, which is valid for one year. An unspecified fee is required for this permit.
Air	DoE and relevant line ministry	Environment Act, No. 10 of 2008	The Act provides for the DoE to establish criteria for measurement of air quality and standards for ambient air quality, occupational air quality and emissions. Section 52 states that an Air Pollution Licence is required, which is valid for one year. An unspecified fee is required for this licence.
Noise	DoE and relevant line ministry	Environment Act, No. 10 of 2008	The Act makes provision for the DoE to set minimum standards for noise emissions and vibration. It also makes provision for noise levels and noise emission standards to be established and applied at construction sites and certain industrial plants. Section 55 states that a Noise Permit is required.

9 Motsamai, B, Keatimilwe, K & Pomela, M, 2003. Country Chapter: Lesotho. In: SAIEA (Southern African Institute for Environmental Assessment), *EIA in southern Africa*. Windhoek: SAIEA.

Table 6.4: Other potentially applicable sectoral requirements[9] *(continued)*

Environmental component	Responsible agency	Title and date of legislation	Purpose
Waste	DoE and relevant line ministry	Environment Act, No. 10 of 2008	The National Environment Secretariat is the overall authority for the management and control of all waste, including hazardous waste. In terms of section 76 of the Act, a Waste Licence is required to generate, store, handle or transport any hazardous wastes.
Energy	DoE Department of Energy Lesotho Electricity Corporation	Environment Act, No. 10 of 2008	Section 64 of the Act relates to the conservation of energy and the promotion of renewable sources of energy through research and incentives.
Health	Ministry of Health	Public Health Order, No. 12 of 1970	The Order prevents anything injurious to public health.
Planning and zoning	DoE and Ministry of Local Government	Environment Act, No. 10 of 2008 Town and Country Planning Act, No. 11 of 1980	Section 70 relates to the development of a National Land Use Plan. The Act provides for development plans to be drawn up for the orderly development of land and the preservation and improvement of amenities.
Aquatic resources	DoE and relevant line ministries	Environment Act, No. 10 of 2008 Protection of Fresh Water Fish Proclamation, No. 45 of 1951, and Fresh Water Fish Regulations (HCN 112/1951)	Sections 61–62 govern the protection and management of riverbanks, rivers, wetlands, lakes and lakeshores. Explosives, chemicals, poisonous or injurious substances, wire and cane are prohibited in freshwater resources.
	Lesotho Highlands Development Authority	Lesotho Highlands Development Order, No. 23 of 1986	The Order relates to the protection of and avoidance of injury to fisheries.
Forestry	Ministry of Forestry and Land Reclamation	Forest Act, No. 11 of 1978 Environment Act, No. 10 of 2008 Forest Regulation, LN 36 of 1980	The Act controls the harvesting of wood and clearance of forests. Section 63 relates to measures to protect and manage all forests in Lesotho. The Regulation controls forest cutting, grazing, squatting and the construction of buildings in forests.
Mining and mineral resources	Ministry of Natural Resources: Department of Mines and Geology	Mines and Minerals Act, 2005 Precious Stones Order, No. 24 of 1970 Uranium and Thorium Control Proclamation, No. 33 of 1951	An EIA is a prerequisite for obtaining mining rights in terms of this Act. Section 58 contains all environmental obligations. The Order controls the search for, extraction, mining and sale of gemstones. The Proclamation controls the search for, mining of, disposing of, and export of uranium, thorium and allied natural radioactive substances.
Wildlife and natural resources	Ministry of Agriculture and Food Security and DoE	Game Preservation Proclamation, No. 33 of 1951 Environment Act, No. 10 of 2008	A licence is required for hunting certain species of mammal and bird. Sections 65–67 relate to the conservation of biodiversity through in situ and ex situ conservation.

Table 6.4: Other potentially applicable sectoral requirements *(continued)*

Environmental component	Responsible agency	Title and date of legislation	Purpose
Agriculture	Ministry of Agriculture and Food Security Ministry of Forestry and Land Reclamation	Weeds Eradication Act, No. 18 of 1969 Land Husbandry Act, No. 22 of 1969 Range Management and Grazing Control Regulations, LN 39 of 1980	The Act contains obligations to eradicate noxious weeds or plants detrimental to agriculture. The Act relates to the management of land, soil conservation, the management of water resources, proper irrigation, and the prevention of poor agricultural practices. The Regulations relate to the prevention of overgrazing and the destruction of plants.
Land	Ministry of Agriculture and Food Security Land Survey and Physical Planning Department	Land Act, No. 422010 Land Regulations, LN 15 of 1980	The Act makes provision for compensation for relocation of people for purposes of development.
Roads	Ministry of Public Works: Department of Rural Roads	Roads Act, No. 24 of 1969	An EIA is required for a new road in terms of the Environment Act, No. 10 of 2001.
Transmission	Lesotho Electricity Corporation	Section 21 of the Environment Act, No. 10 of 2001	An EIA is required for transmission lines.
Conservation	Ministry of Agriculture and Food Security	National Parks Act, No. 11 of 1975	The Act provides for the establishment of national parks for the conservation of wild animals and fish life.
Archaeological, historical and cultural	Ministry of Tourism, Environment and Culture	Historical Monuments, Relics, Fauna and Flora Act, No. 41 of 1967, and Environment Act, No. 10 of 2008	This Act prohibits the destruction or damage to any historical monuments, fauna and flora, as well as removal from their habitat of Lesotho without permission
Industrial development	Ministry of Industry, Cooperatives, Trade and Marketing	Industrial Licensing Act, No. 27 of 1969	
Urban development and waste management	Ministry of Tourism, Environment and Culture Ministry of Natural Resources Ministry of Local Government Ministry of Natural Resources Ministry of Local Government	Sanitary Services and Refuse Removal Regulations, LN 36 of 1972 Urban Sewerage Regulations, LN 1 of 1977 Urban Government Act, No. 3 of 1983 Local Administration Act, No. 13 of 1969 Lesotho Housing and Land Development Corporation Order, No. 12 of 1988	

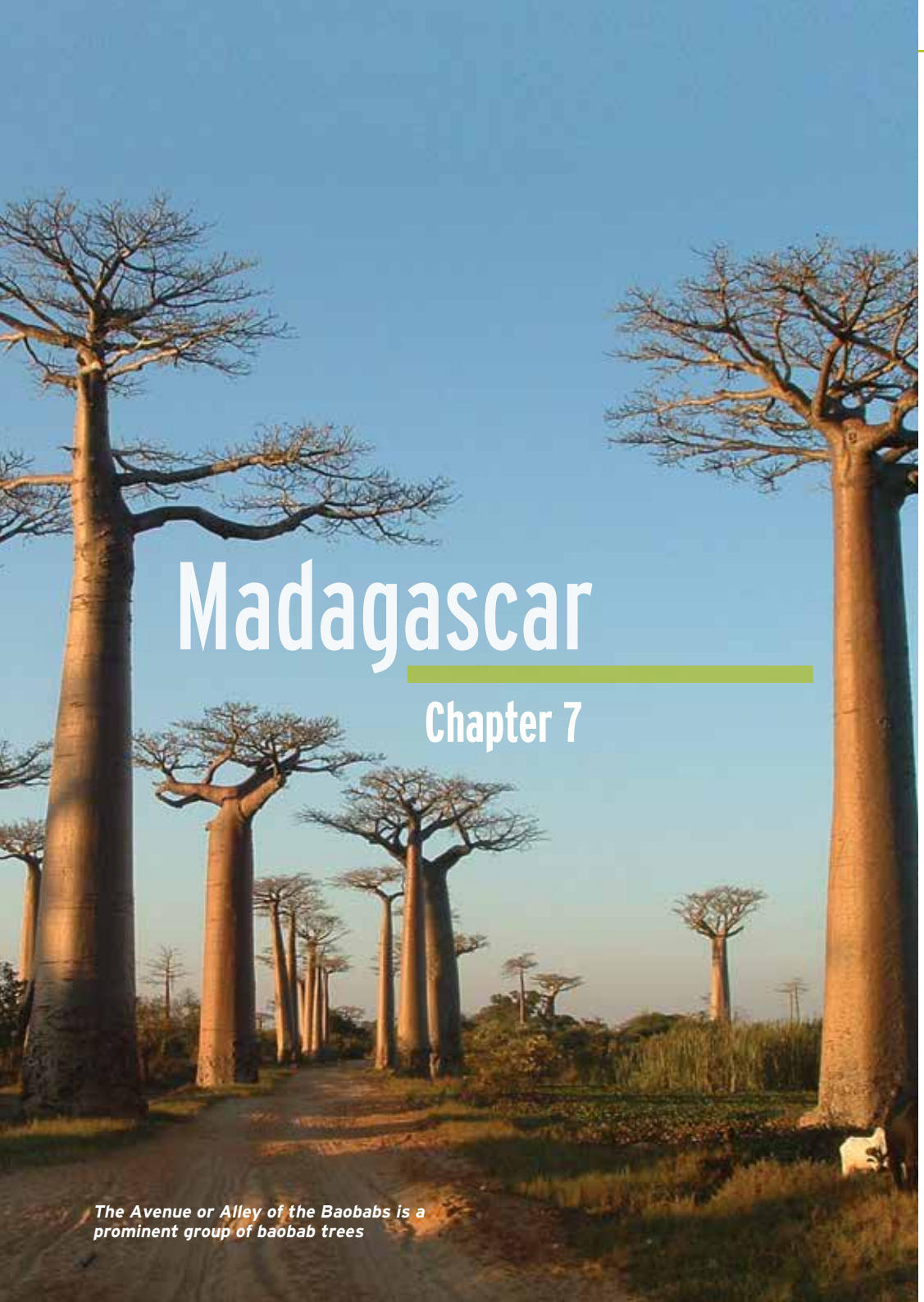
NTU: nephelometric turbidity units
TTN: threshold taste number

Acronyms

DoE	Department of Environment
EIA	environmental impact assessment
EIS	Environmental Impact Statement
NAP	National Action Plan to Implement Agenda 21
NEAP	National Environmental Action Plan

Useful contacts

Department	Ministry	Telephone	Fax	Website
Department of Environment	Ministry of Tourism, Environment and Culture	+266 223 21274 / +266 223 11767	+266 223 11139	www.environment.gov.ls



Madagascar

Chapter 7

The Avenue or Alley of the Baobabs is a prominent group of baobab trees

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Madagascar

7.1 Constitutional requirements for environmental protection in Madagascar

The Constitution of the Republic of Madagascar (2010) enjoins the public, through local government structures (the Fokonolana and the lower-level Fokontany) to take appropriate measures to prevent the destruction and harm of their environment, including loss of land, seizure of cattle or loss of ceremonial heritage, unless these measures jeopardise the common interest or public order (Article 39).[1] Article 41 states that:

> *The State guarantees the freedom of enterprise so long as it operates within the limits of the public interest, public order and the environment In order to protect the natural and mineral resources of the country, the conditions of exploitation must be debated in advance by the National Assembly.*[2]

The concept of sustainable development underpins all the environmental policy and legal documents. Decree No. 2004-167 relating to Ensuring the Environmental Suitability of Investments (Mise en Compatibilité des Investissements avec l'Environnement (MECIE)) is founded on the notion of sustainable development recognising the needs of the present, while safeguarding the needs of future generations. The three objectives of sustainable development to be achieved include the following:

- Maintenance of ecological integrity;
- Improvement of economic efficiency; and
- Improvement of social equity.[3]

7.2 Institutional and administrative structure for environmental impact assessment in Madagascar

7.2.1 Ministry of the Environment, Water, Forests and Tourism

The Ministry of the Environment, Water, Forests and Tourism (Ministère de l'Environnement, de l'Eau, Forêts et Tourisme (MEEFT)) is responsible, inter alia, for the environmental impact assessment (EIA) process. Its specific tasks relating to EIA include:

- Participation in the EIA process, as well as in the control and monitoring of projects;
- Implementation of the processes set out in the Decree MECIE;
- Authority from whom an aggrieved proponent can request a second opinion in the event that a request for an Environmental Permit is refused by the National Office for the Environment (Office National de l'Environnement (ONE)).[4]

The remit of the Minister of Environment, Water, Forests and Tourism, as well as the general organisation of the Ministry, is set out in Decree No. 98-962 of 18 November 1998.

The organisational chart for the MEEFT is presented in Figure 7.1.

7.2.2 National Office for the Environment

The Office, ONE is situated in the MEEFT. It was set up specifically to administer the Decree MECIE and was formalised in terms of Decree No. 2008.600 of 23 June 2008. Its stated mission is to ensure that economic activities and development are not detrimental to the environment. This is carried out through a number of interventions, including: the development and management of the EIA processes set out in Decree MECIE; the management and prevention of pollution; the monitoring of the marine and terrestrial environments to manage the unique biodiversity of Madagascar better; the dissemination of environmental information and tools; environmental awareness training; as well as the preparation of national and regional *State of Environment* reports.[5]

ONE's main tasks in relation to EIA include:

- Coordination of the EIA process;
- Coordination of the work of the ad hoc Technical Evaluation Committee (Comité Technique d'Evaluation (CTE)) and monitoring of the environmental management plan (EMP);
- Coordination of the evaluation of environmental audits;
- Issuing Environmental Permits;
- Issuing Environmental Closure Certificates on project closure.[6]

7.2.3 Technical Evaluation Committee

The CTE is an ad hoc committee constituted by ONE, which is charged with the evaluation of the EIA dossier. It comprises members of the sector environmental units (see section 7.2.4) and representatives of the sector ministries, the MEEFT and ONE.

1 ECOSOC (United Nations Economic and Social Council), 2007. Implementation of the International Covenant on Economic, Social and Cultural Rights. Report prepared by the Committee on Economic, Social and Cultural Rights. New York: United Nations.
2 ECOSOC, 2007.
3 Randriamiarana, H, 2006. Présentation du Décret MECIE. www.pnae.mg
4 Randriamiarana, 2006.
5 www.pnae.mg
6 Randriamiarana, 2006.

7.2.4 Intersectoral cooperation

Other line ministries responsible for development in their sectors are expected to participate in the EIA process and to control and monitor the implementation of the EMP. To achieve effective implementation of this, Decree No. 2003-439 of 27 March 2003 provides the framework for the establishment of an environmental unit in each sector ministry that directly affects the environment. The environmental units are responsible for evaluating and approving the Programme of Environmental Engagement (Programme d'Engagement Environnemental (PREE)) and for the integration of the environment into sector policies in order to ensure sustainable development.

7.3 Policy and legal framework for EIA in Madagascar

7.3.1 National policy

Environmental policy in Madagascar is informed by the National Environmental Action Plan (Plan d'Action Environnementale (NEAP)). This document came into force through Law 90-033 on 21 December 1990. It provides predictions and strategies for a period of 15 years, up to 2005, divided into three five-year programmes for the environment, known as PE1, PE2 and PE3.[7] Since the political crisis in 2009, most of the donor funding that supported environmental policy formulation and institutional strengthening has been withdrawn, and there have been no further environmental plans since PE3.

7.3.2 Environment Charter

The Environment Charter (Charte de l'Environnement) was promulgated as Law 90-033 on 21 December 1990 and amended by Laws No. 97-012 of 6 June 1997 and No. 2004-015 of 19 August 2004. Article 10 makes provision for EIAs by stating that all public or private investment projects that may have an impact on the environment must undertake an impact study, taking into account the technical nature, scale and magnitude of the project, as well as the sensitivity of the receiving environment. Investment projects submitted for authorisation or approval by an administrative authority are also subject to an EIA under the same conditions as other projects.[8]

7.3.3 Decree MECIE

The Decree MECIE has evolved over time and has been repealed and/or amended several times, as follows:
Decree No. 92-926 of 21 October 1992, replaced by
Decree No. 95-377 of 23 May 1995, repealed by
Decree No. 99-954 of 15 December 1999, modified by
Decree No. 2004-167 of 3 February 2004.

The Decree of 1999 introduced new articles relating to EIA, the PREE, the permit and approval processes, the establishment of the CTE, the projects that require either an EIA or a PREE, and the scale of review fees required by ONE. The latest Decree (2004) specifies the roles and responsibilities of ONE and other organisations responsible for EIA.

Decree MECIE is divided into sic chapters and three annexes, as follows:

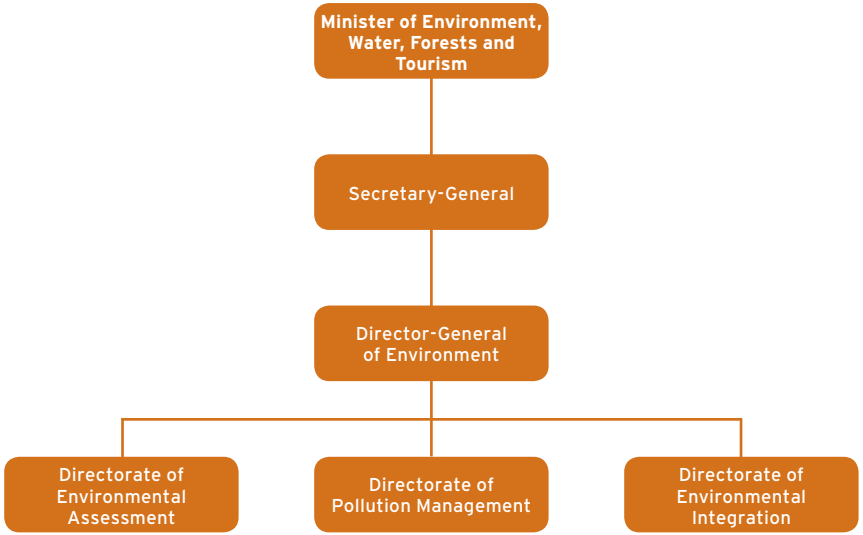
Chapter 1: General arrangements and definition of terms
Chapter 2: Rules and procedures relating to:
- EIA process
- Evaluation and review procedures
- Public participation

Chapter 3: Monitoring and control
Chapter 4: Offences and penalties
Chapter 5: Transitional arrangements
Chapter 6: General arrangements relating to particular modalities of application in certain sectors
Annex I: Description of projects that require an EIA
Annex II: Description of projects that require a PREE
Annex III: Fees

Although Decree MECIE does not have specific clauses relating to strategic environmental assessment, ONE has encouraged each region to mainstream environmental management into all its Regional Development Plans and to produce regional environmental policies. In addition, an EIA is required for all policies, plans and programmes that could modify the natural environment and the use of natural resources and/or affect the quality of the human environment, whether urban or rural.

7 Randriamiarana, 2006.
8 Randriamiarana, 2006.

Figure 7.1: Organisational structure of the Ministry of Environment, Water, Forests and Tourism (as it relates to environmental assessment)



7.3.4 Related orders, technical directives and guidelines

A number of legal instruments and tools support the operation of MECIE. These are listed below:

- Order No. 4355/97 of 13 May 1997 on the designation of sensitive zones: In terms of Article 2 of this Order, sensitive zones are defined as one or more elements of the environment characterised by specific values or fragility, which may be vulnerable to human activities and susceptible to natural phenomena, such that the environment may be modified and/or degraded;
- Order No. 6830/2001 of 28 June 2001 setting out the procedures and methods of public participation in EIA (see section 7.4.5);
- Order No. 18 732 of 27 September 2004 setting out the definition and delimitation of sensitive forest areas;
- Order No. 19 560 of 18 October 2004 suspending the granting of mining permits and forestry permits in areas reserved for conservation;
- Interministerial Order No. 6941/2000 of 11 July 2000 setting the limits for exhaust emissions from vehicles; and
- Interministerial Order No. 12032/2000 of 6 November 2000 regarding the regulation of the mining sector and matters of environmental protection.[9]

9 Randriamiarana, 2006.

Several more Orders relating to the implementation of EIA and PREE are currently in draft.

A number of Environmental Technical Directives have been adopted, relating to:

- Conducting an EIA;
- Environmental evaluation;
- Compliance monitoring; and
- Environmental auditing.

Meanwhile, a guide for local authorities on public participation in EIA and a guide for environmental follow-up are also in draft.

Madagascar also has sector EIA guidelines for tourism, roads, aquaculture, on- and offshore petroleum developments, textiles, forestry, mines, wetlands and sensitive areas.

7.3.5 Permits and licences

In terms of Article 27 of MECIE 2004, ONE will grant an Environmental Permit based on the environmental review of the EIA, a public evaluation report, and technical advice from the CTE. The permit will be inserted into all applications, approvals and agreements for all construction projects.

Projects that only require a PREE receive an Environmental Agreement or a Certificate of Conformance from the environmental unit in the responsible sector ministry.

7.3.6 Offences and penalties

The offences that can be committed under MECIE are set out in Article 34 of the Decree and are summarised in Table 7.1. The penalties will be determined by ONE, together with the sector ministry and the affected community, from the list shown in the table.

Table 7.1: Offences and penalties

Offence	Penalty
Non-compliance with the EMP	• Injunction to restore the environment to its natural condition; • Injunction to proceed, within a predetermined time, to implement corrective measures and compensation; • Suspension or withdrawal of the Environmental Permit. Once this has occurred, the responsible sector ministry can: – Stop all work; – Suspend the activities in terms of Article 2 of MECIE; and/or – Order the temporary or permanent closure of the establishment.
Carrying out any development or construction works for a project listed in Annex I without an Environmental Permit	
Carrying out any development or construction works for a project listed in Annex II without the approval of a PREE	
Failing to carry out corrective actions and/or paying the prescribed compensation	
Failure or partial failure to carry out the detailed measures prescribed in MECIE	

7.3.7 Fees

All developers are required to pay a fee for the review of the EIA and the monitoring of the EMP. The fee includes the costs associated with the environmental units in the sector ministries, the fees of experts used to assist with the review or monitoring of the project, and the fees and costs incurred by the members of the CTE and by the public enquiry and/or public hearing.[10] The fee schedule is shown in Table 7.2.

Table 7.2: Fees to be paid for EIA review and EMP monitoring

Value of Investment	Fee
Less than FMG10 billion	0.5% of capital cost of investment
FMG10 – 25 billion	FMG10 million or 0.4% of the capital cost
FMG25 – 125 billion	FMG35 million or 0.3% of the capital cost
FMG125 – 250 billion	FMG160 million or 0.2% of the capital cost
More than FMG250 billion	FMG410 million or 0.1% of the capital cost

7.3.8 Environmental standards

The proponent of a project must demonstrate how s/he will conform to the environmental standards in force at the time of the application. Decree No. 2003/464 of 15 April 2003 sets out the effluent quality standards that must be adhered to before discharge into surface waters. These are specified in Article 5 of the Decree and repeated in Table 7.3. The minimum standards for metals in sewage sludge are stipulated in Article 10 and shown in Table 7.4, while the standards for soil onto which sewage sludge is discharged are shown in Table 7.5. The methods of analysis that should be used are set out in the Annex to the Decree.

Table 7.3: Discharge standards for liquid effluents

Determinants	Units	Standard
Physical		
pH		6.0 - 9.0
Conductivity	0S/cm	200
Suspended solids	mg/l	60
Temperature	°C	30
Colour	Pt/Co	20
Turbidity	NTU	25
Chemical		
Hardness as $CaCO_3$	mg/l	180
Ammoniacal nitrogen	mg/l	15
Nitrate	mg/l	20
Nitrite	mg/l	0.2
Kjeldahl nitrogen	mg/l - N	20
Phosphate as PO_4	mg/l	10
Sulphate as SO_4	mg/l	250
Sulphur as S	mg/l	1
Oil and grease	mg/l	10
Phenol	mg/l	1
Polycyclic aromatic hydrocarbon	mg/l	1
Free chlorine	mg/l	1
Chloride	mg/l	250
Biological		
Chemical oxygen demand	mg/l	150
Biological oxygen demand	mg/l	50
Undesirable elements		
Aluminium	mg/l	5
Arsenic	mg/l	0.5
Cadmium	mg/l	0.02
Hexavalent chromium	mg/l	0.2
Total chrome	mg/l	2
Iron	mg/l	10
Nickel	mg/l	2
Lead	mg/l	0.2
Tin	mg/l	10
Zinc	mg/l	0.5
Manganese	mg/l	5
Mercury	mg/l	0.005
Selenium	mg/l	0.02
Cyanide	mg/l	0.2
Aldehyde	mg/l	1
Aromatic solvents	mg/l	0.2
Nitrogen-based solvents	mg/l	0.1

10 Annex 3 of Decree No. 99-954 of 1999.

Table 7.3: Discharge standards for liquid effluents *(continued)*

Determinants	Units	Standard
Undesirable elements *(continued)*		
Chloride-based solvents	mg/l	1
Organo-chloride pesticides	mg/l	0.05
Organo-phosphate pesticides	mg/l	0.1
Pyrethrinoids	mg/l	0.1
Phenylpyrazoles	mg/l	0.05
Total pesticides	mg/l	1
Antibiotics	mg/l	0.1
Polychlorobiphenyls (PCBs)	mg/l	0.005
Radioactivity	Bq	20
Microbiological		
Total coliforms	Number	500
Escherichia coli	Number	100
Faecal *streptococci*	Number	100
Clostridium		100

NTU: nephelometric turbidity units

Table 7.4: Sewage sludge standards

Element	Maximum concentration (mg/kg dry matter)	Maximum per kg/ha 10 years
Cadmium	40	1.5
Chromium	2 000	45
Copper	2 000	120
Mercury	20	1
Nickel	400	30
Selenium	200	1
Zinc	8 000	300
Cr+Cu+Ni+Zn	8 000	120

Table 7.5: Soil limits for sewage sludge disposal

Element	No sewage sludge to be disposed of on soils where metal concentrations exceed the following (mg/kg of dry material)
Cadmium	3
Chromium	200
Copper	140
Mercury	1.5
Nickel	75
Lead	300
Selenium	10
Zinc	300

In the event that there are no national standards available, such as for noise or air quality, the proponent must comply with internationally recognised standards developed by international organisations affiliated to the United Nations. Where there are several standards available for use, the proponent must provide justification for his/her choice in the EIA.[11]

7.3.9 Certification of EIA consultants

There is no certification system for environmental assessment practitioners in Madagascar. The guidelines merely encourage the proponent to use recognised scientific experts in conducting the EIA,[12] and the names, professions and functions of each EIA team member must be provided in an annex to the EIA report.

7.4 EIA procedural framework in Madagascar

An EIA is defined in Article 2 of MECIE as 'a study that consists of scientific analysis and prediction of potential impacts of an activity on the environment, and the examination of the acceptability of their significance, as well as the mitigation measures proposed to ensure environmental integrity, within the limits of best available technology at an acceptable cost'.

The aims of the EIA are identified as follows:

- Ensure the optimal integration of environmental considerations and the best utilisation of resources and land.
- Consider environmental issues at all phases of the project life cycle, from conception through implementation and operations to closure.

11 Para 1.2.4 of the General Directive for the Implementation of an Environmental Impact Study in Madagascar (Directive Générale pour la Réalisation d'une Étude d'Impact Environnemental à Madagascar).
12 Para 1.4 of the General Directive for the Implementation of an Environmental Impact Study in Madagascar.

- Predict and determine the positive and negative ecological and social consequences of a project.
- Identify measures to mitigate or compensate for the negative impacts.
- Identify alternatives or variations to the project, which may be less damaging to the environment and which satisfy the project objectives as well as the interests of all parties concerned.
- Take into account the opinions, reactions and interests of all parties concerned, in particular individuals and communities within the project area.[13]

7.4.1 Screening

At the outset, a project developer must determine whether the project requires an EIA, a PREE or a Compliance Certificate (see Figure 7.2).

Environmental impact assessment

The public or private investment projects that require an EIA are set out in Article 4 and Annex I of MECIE (shown in Appendix 7-1 of this chapter). An EIA is mandatory for:

- All developments, construction and works that could affect sensitive environments as defined in Order No. 4355/97:
  A sensitive area may include coral reefs, mangroves, islets, tropical forests, zones subject to erosion, arid and semi-arid areas susceptible to desertification, conservation areas, swamps, wetlands, reference sites for protected species, areas of archaeological or historical interest, and zones around important water sources;
- The types of developments listed in Annex I (Appendix 7-1); and
- Any other activity, which by its nature, size and scale could cause a negative impact on the environment and which is not listed in Annex I.

Programme of Environmental Engagement

A developer of a private or public investment project that is listed in Annex II of MECIE must submit a brief project description to ONE, which will then screen the project and determine whether a PREE is acceptable.[14]

Compliance Certificate

This applies to enterprises that were in existence on the date of Decree No. 2004-167 and that are listed in Article 4 of the Decree (i.e. those projects that require an EIA).

13 Para 1.1 of the General Directive for the Implementation of an Environmental Impact Study in Madagascar.
14 Article 5 and Annex 2 of MECIE 2004.

7.4.2 Environmental impact assessment

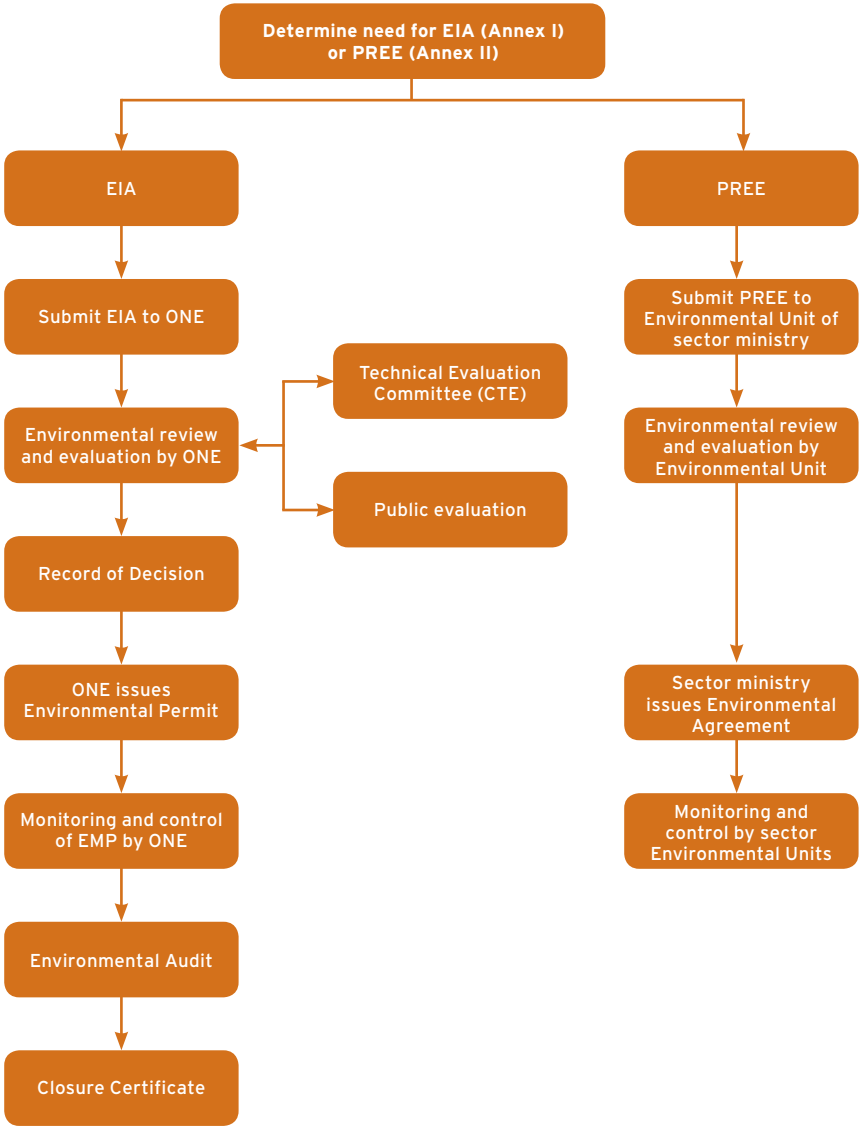
The General Directive for the Implementation of an Environmental Impact Study in Madagascar (Directive Générale pour la Réalisation d'une Étude d'Impact Environnemental à Madagascar) sets out in detail the form and content of an EIA. The EIA must be undertaken according to the following steps:

Context of the project: This chapter should include details and experience of the proponent; the proponent's environmental and sustainable development policies, if available; the name of the company undertaking the EIA; an overview of the project and its location; and a detailed motivation and justification for the project, including the major opportunities and constraints.[15]

Technical description of the project: The aim of this section is to present a detailed description of each project phase and the activities associated with each phase. The description should include: the proposed use of natural resources, methods of exploitation and treatment, production rates, and pollution and emissions expected, taking into account the environmental standards being applied. The chapter should identify all impacts associated with each project activity. The proponent is referred to the sectoral guidelines listed in section 7.3.4 of this Handbook and the responsible line ministry. [16]

15 Para 2.1 of the General Directive for the Implementation of an Environmental Impact Study in Madagascar.
16 For a complete list, see paragraph 2.2 of the General Directive for the Implementation of an Environmental Impact Study in Madagascar.

Figure 7.2: EIA process in Madagascar



Description of the receiving environment: The aim of this section is to describe the baseline receiving environment in the zone of influence of the project. The environment is seen to include physical, biological, social, economic and cultural elements. This chapter of the EIA should include a detailed delimitation of the actual project site; the position of all ancillary and associated structures, such as access roads and pipelines; as well as the surrounding areas that may be affected by the project, such as air pollution deposition zones and socio-economic structures. It must also provide a detailed description of the most important environmental components. Data can be obtained either through literature surveys or, where basic data is lacking, through site surveys carried out by a multidisciplinary team of experts using proven scientific methods.

The baseline environmental description should include information on: geology, topography, soils, hydrology, terrestrial and aquatic ecosystems, vegetation, fauna, social structures and demographics, economic systems and activities, and the cultural environment. The study must also be placed into the context of spatial planning initiatives, policies and other schemes and developments.[17]

Alternatives analysis: The objective of this step is to demonstrate that the project as proposed is the best option of all possible alternatives from a technical, economic and environmental perspective. To this end, the EIA should include a detailed assessment of all site, route and design alternatives and provide a justification for the preferred options based on an objective assessment of each.[18]

Analysis of impacts: This chapter must include three sections:

- Identification of potential impacts on the receiving environment for each activity in each project stage;
- Evaluation of the impacts, including an analysis of the intensity or magnitude, scale, duration, frequency and probability of each impact, confidence levels in each prediction, the value of compensation for affected populations, health and safety risks, and exposure pathways; and
- Identification of mitigation measures to prevent, suppress or reduce negative impacts or to maximise the benefits of the project on the environment. The mitigation measures must be identified for each impact in each project phase and must include the required actions to achieve the desired results. If it is not possible to reduce the negative impacts sufficiently, then it will be necessary to identify suitable compensation measures, such as resettlement packages. The proponent is required to identify the costs associated with the proposed mitigation measures.

17 Detailed lists of factors to consider in the environmental description are included in Annex 2 of the General Directive for the Implementation of an Environmental Impact Study in Madagascar.
18 Para 2.4 of the General Directive for the Implementation of an Environmental Impact Study in Madagascar.

The study must present the methodology used to determine the impacts, including clearly defined criteria for ascertaining significance and importance.[19]

Risk assessment: The EIA must include a risk assessment, especially for heavy industrial and infrastructure projects where there is a risk of accidents that could pose a danger to environmental quality and human health. In these instances, the EIA report must identify the risks and present a detailed emergency plan to deal with each risk.[20]

Project synthesis: This chapter must present a synthesis of the project after all mitigation and compensation measures have been applied, detailing the residual impacts.[21]

Environmental management plan: The EMP provides an environmental monitoring and follow-up programme, which must be implemented during each phase of the project life cycle. This section of the EIA forms the basis of the Record of Decision. The EMP must contain at least the following components:

- A list of all legislative requirements that have been taken into account in the project;
- A description of the envisaged performance and design criteria for all equipment and installations;
- A description of the measures and methods proposed to protect the environment;
- An evaluation of dangers and the proposed methods of prevention and protection to safeguard the environment;
- The interventions undertaken by the proponent to apply the mitigation measures to the negative impacts of the project;
- A programme for the implementation of all mitigation measures; and
- The mechanisms and frequency of sending monitoring reports to the competent authorities (the MEEFT, ONE and other sector ministries).

It is expected that the monitoring programme will be revised periodically based on the effectiveness of the mitigation measures after implementation of the project.

The follow-up programme aims to validate the impact predictions made in the EIA and to assess environmental performance of the project and the effectiveness of the mitigation measures.[22]

19 Para 2.5 of the General Directive for the Implementation of an Environmental Impact Study in Madagascar.
20 Para 2.6 of the General Directive for the Implementation of an Environmental Impact Study in Madagascar.
21 Para 2.7 of the General Directive for the Implementation of an Environmental Impact Study in Madagascar.
22 Para 2.8 of the General Directive for the Implementation of an Environmental Impact Study in Madagascar.

The EIA report should contain the following:

- Executive summary
- Table of contents
- Lists of tables, figures and diagrams
- Introduction
- Context and justification for the project
- Description of the receiving environment
- Description of the project
- Analysis of the project alternatives
- Risk assessment
- Project synthesis
- EMP
- Conclusions
- References
- Annexes containing: a list of the EIA study team, including name, profession and position on the team; maps; notices of public meetings and details of the public consultation programme; methods and results of all surveys and sampling programmes; and any other information that will assist informed decision-making on the project.

In addition, the EIA documents must include the title deeds or other proof of ownership or tenure of the site for the proposed project, as well as a non-technical summary in Malagasy and French. The main document must also be written in Malagasy or French.

The environmental dossier (all the documents described above) must be submitted to ONE, together with:

- A written request by the proponent addressed to ONE to carry out an environmental review;
- A short note about the project;
- Seven copies of the EIA report;
- Seven copies of the non-technical summary in French and Malagasy;
- Receipt of payment of the review fees;
- Certified statement of the capital costs of the project;
- One copy of the documentation on CD-ROM, in a form compatible with Microsoft Word 6.0.

7.4.3 Programme of Environmental Engagement

All investment projects listed in Annex II of the Decree MECIE, 2004 (see also Appendix 7-2) must submit a PREE (see Figure 7.2). According to Article 5 of MECIE, 2004, the PREE must conform to the contents, format and substance to be defined in forthcoming regulations. The environmental unit in the sector

ministry concerned will evaluate the PREE and send its report and opinion to the Minister in charge of Environment and ONE. Approval of the PREE is a mandatory requirement before construction.

7.4.4 Review of EIA report

Once ONE has received the environmental dossier, the evaluation and review process commences (see Figure 7.2). The tasks include:

- Analysing of the acceptability and completeness of the documents;
- Assembling the ad hoc CTE;
- Doing a desktop review of the documents;
- Visiting the site for familiarisation and observation of the environment and cross-checking aspects contained in the EIA;
- Initiating the public participation process (see section 7.4.5);
- Requesting the proponent to provide additional information;
- Obtaining technical advice and opinions from the sector ministries responsible for the project;
- Issuing the Record of Decision; and
- Granting the Environmental Permit.

7.4.5 Public participation process

The basis for public participation in environmental decision-making is found in Article 4 of the Environmental Charter, which states that 'the protection and respect for the environment is of general interest. It is the obligation of each person to safeguard the environment in which he lives. To this effect, all interested and affected parties ... have a right to be informed of decisions that could have an influence on the environment.'

The involvement of the public in the EIA review process is carried out either by a review of the documents by interested and affected parties, through a public enquiry or survey, or through a public hearing. The results of the public evaluation are an integral part of the EIA. Based on the methods specified in Order No. 6830/2001, ONE takes the decision on the method of public involvement. The proponent is notified at least seven days before the start of the public evaluation.[23] The public participation process is organised by CTE or ONE.

The *document review* process includes the local authority in the area of the proposed project canvassing public opinion. The methodology is set out in Order No. 6830/2001. The consultation process must extend for a period of no less than *ten days* and no more than *30 days.*[24]

23 Article 15 of Decree MECIE, 2004.
24 Articles 16 and 17 of Decree MECIE, 2004.

The *public enquiry or survey* comprises the canvassing of public opinion by an environmental interviewer, carried out in collaboration with the relevant local authorities. The methods of engagement are set out in Order No. 6830/2001. The public enquiry must extend for a period of no less than *15 days* and no more than *45 days.*[25] It can occur simultaneously with the document review process described above.

The *public hearing* process is described in Articles 20 and 21 of the Decree MECIE, 2004, and Order No. 6830/2001. The public hearing comprises the simultaneous consultation with interested parties and can occur in addition to the two forms of consultation described above. The public hearing process must extend for a period of no less than *25 days* and no more than *60 days.*

7.4.6 Appeals

Anyone aggrieved by a decision made by ONE may request the Minister of Environment to re-examine the dossier of documents. The Minister may appoint one or more experts to assist him/her in the review, which must be undertaken and a report submitted to ONE within *30 days.* On receipt of the Minister's report, ONE has *ten days* to reconsider its Record of Decision and to announce whether it will issue the Environmental Permit. If not, the Minister could issue the permit.[26]

7.4.7 Environmental monitoring and control

Chapter III of Decree MECIE, 2004, sets out the requirements for environmental monitoring and control. The aim of environmental monitoring is to verify the effectiveness of the mitigation measures in preventing or minimising negative impacts on the environment. This ensures that the proponent of the project will respect all the obligations of the EMP throughout the life of the project. Any evidence of non-compliance can lead to the imposition of penalties by the authorities.

The proponent may be required to take additional measures or apply new standards, should the current measures be deemed ineffective. The competent authority that granted the Environmental Permit will make this decision.

Before project closure, the proponent is required to carry out an environmental audit according to the methodologies set out in the applicable technical directives. The audit must be submitted to ONE for evaluation and the granting of an Environmental Closure Certificate, which would then relieve the proponent of any further responsibility for the environment.

25 Articles 18 and 19 of Decree MECIE, 2004.
26 Article 28 of Decree MECIE, 2004.

7.5 Other relevant environmental legislation in Madagascar

Environmental issues cut across a variety of sectors, and numerous pieces of legislation in Madagascar have a bearing on the environment and should be considered in EIA decision-making. The sectors, titles of the legislative instruments, the responsible agency and the purpose of the legislation are summarised in Table 7.3.

Table 7.6: Other potentially applicable sectoral requirements

Information required	Responsible agency	Title and date of document	Comments
Water resources (use of)	Ministry of Water	Law No. 98-029 of 20/01/99: Water Code	
Effluent disposal	Ministry of Water	Articles 16-18 and 20-22 of Law No. 98-029	The Articles pertain to wastewater and effluent disposal.
		Law No. 99-021 of 19 August 1999	The Law relates to the management policy and control of industrial pollution.
Planning and zoning	Local authorities	1) Alignment authorisation (Autorisation d'alignement)	A request for a building alignment approval is to be made to the local authority. A fee will be levied, which has to be paid at the time of the request. Approval takes about a month.
		2) Building permission	Applications must be made to the local authority; it takes about three months.
Natural resources	Local courts (DINAs)	Law No. 96-025 of 30 September 1996, as amended by Law No. 2000-027 of 13 January 2000	The Law relates to the local management of renewable natural resources by all rural communities.
Fisheries and aquaculture	Ministry of Agriculture, Stock Farming and Fisheries	Ordinance No. 93-022 of 4 May 1993	The Ordinance contains regulations on fishing and aquaculture practices.
Forestry	MEEFT	Law No. 97-017	The Law relates to the revision of forestry legislation.
		Law No. 97-1200	The Law relates to the adoption of Forestry Policy.
		Order No. 18177/04 of 27 September 2004	The Order sets out definitions and delimitation of sensitive forest areas.
Conservation	MEEFT	Law No. 2001/05 Management of Protected Areas	The Law sets out the classes of protection, the basis for protection, and the procedures that need to be followed to proclaim a protected area.
		Order No. 4355/97 of 13 May 1997	The Order sets out definitions and delimitation of sensitive environments.
		Decree No. 2006-541	The Decree relates to the ratification of the Bonn Convention on the conservation of migratory species.
Tourism	MEEFT	Law No. 95-017 of 25 August 1995	The Law contains the Tourism Code.
		Decree No. 96-1293 of 30 December 1996	The Law relates to the creation and management of areas of tourist interest.
Agricultural and land	Ministry of Agriculture, Stock Farming and Fisheries	Law No. 2003-029 of 27 August 2003 and Decree No. 2003-897 of 27 August 2003	The Law permits foreigners to purchase land in Madagascar (the alternative is to enter into a long-term lease).
Roads	Ministry of Roads	Law No. 98-026 of 20 January 1999	The Law overhauls the Roads Charter.
Mining	Ministry of Energy and Mines	Law No. 99-022 of 19 August 1999	Mining Code
		Decree No. 99-954 N2004-167	The Decree requires mining investment projects to be subject to an EIA, requires public participation as part of the process, and defines the requirements for an Environmental Licence.
		Decree No. 2000-170 of 18 November 2000	The Decree sets the conditions of application of the Mining Code.
		Interministerial Order No. 12032/2000 of 6 November 2000	The Order sets out the regulation of the mining sector and matters relating to environmental protection.

Table 7.6: Other potentially applicable sectoral requirements *(continued)*

Information required	Responsible agency	Title and date of document	Comments
Mining continued		Decree No. 2003-784	The Decree requires mining permit holders to contribute to the costs of environmental impact studies for all large-scale mining projects (maximum of MGA682 million).
Energy	Ministry of Energy and Mines	Decree No. 2003-942	The Decree regulates the use of water for the production of hydroelectricity.

Appendix 7-1

List of projects that must undertake an EIA

- All developments, construction and works that could affect sensitive environments.
- All plans, programmes and policies that could modify the natural environment and use of natural resources and/or affect the quality of the human environment, whether urban or rural.
- The use or transfer of technologies that have the potential to cause damage to the environment.
- Storage of any liquid of more than 50 000 m^3.
- All methods of commercial transport by road, rail or plane of dangerous goods (corrosive, toxic, contagious or radioactive).
- Any displacement of more than 500 people.
- All developments, construction and works, which by their nature and size and the sensitivity of the receiving environment could result in environmental damage. These include:

Infrastructure and development

- All projects relating to the construction and maintenance of roads;
- All projects relating to the construction and maintenance of railways;
- All railway rehabilitation projects of more than 20 km in length;
- All projects relating to the construction, maintenance and rehabilitation of international, regional or national airports and/or with a runway length of more than 1500 m;
- All projects relating to the management, rehabilitation and maintenance (specifically dredging) of principal and secondary ports;
- All projects relating to the new construction of marine and freshwater ports;
- All projects involving the excavation or construction of embankments using more than 20 000 m^3;
- All construction projects in development zones;
- All nuclear energy projects;
- All hydroelectric installations with a capacity of more than 150 MW;
- All thermal energy projects with a capacity of more than 50 MW;
- All power line construction projects of 138 kV or greater;
- All hydroelectric dams with a dam surface of more than 500 ha; and
- All projects for the establishment of navigable waterways, including dredging, of longer than 5 km.

Agriculture and stock farming

- All projects relating to the establishment or rehabilitation of irrigation agriculture or dry land agriculture of more than 1000 ha;
- Intensive stock-farming projects;
- Abstraction of surface or groundwater at a rate of more than 30 m^3/h; and
- Application of chemical products, which by their scale of application could affect the environment and human health.

Renewable natural resources

- Introduction of new species of animals, plants or genetically modified organisms;
- Forestry operations greater than 500 ha;
- Collection and/or hunting and sale of species;
- Creation of terrestrial or marine parks and reserves at a national or regional scale;
- Introduction of native species of Madagascar into an area where they are not previously known; and
- All commercial sport hunting and fishing operations.

Tourism and hotel industry

- Establishment of hotels with a capacity of more than 120 bedrooms;
- Establishment of recreation and tourism developments with a combined surface area of more than 20 ha; and
- All restaurants with a seating capacity of more than 250 persons.

Industrial sector

- All industrial developments that require authorisation in terms of the regulations and requirements of Law No. 99-021 pertaining to the management policy for the control of industrial pollution;
- All industrial units that transform natural products e.g. tanneries and breweries; and
- Factories for the manufacture of animal feeds, with a capacity of more than 150 t/year.

Management of diverse products and waste

- All pesticide containers with a capacity of more than 10 tonnes;
- All domestic and industrial waste disposal sites, including those for hazardous materials;
- All units for the treatment and disposal of hospital wastes exceeding 50 kg/day;
- All containers for storage of radioactive products or wastes;
- Storage of dangerous or hazardous products; and
- Water treatment plants for domestic supplies.

Mining sector

- All exploitation or extraction of minerals by mechanical means;
- Mining of radioactive substances; and
- Physical and chemical processing plants at mine sites.

Hydrocarbons and fossil fuels

- All projects relating to the exploration for petroleum or natural gas using seismic and/or drilling methods;
- All projects relating to the extraction and/or transportation by pipeline of petroleum or natural gas;
- All projects relating to the extraction and industrial use of coal and coke;
- Petroleum and natural gas refineries with a capacity of more than 20 000 barrel-equivalents per day;
- All offshore structures;
- Extraction of bitumen at a rate of more than 500 m^3/day; and
- All storage of petroleum products and derivatives, or natural gas, with a combined capacity of more than 25 000 m^3 or 25 million litres.

Appendix 7-2

List of projects that must undertake a PREE

- Infrastructure and development
- All projects relating to the maintenance of tarred roads longer than 20 km;
- All projects relating to the maintenance of untarred roads longer than 30 km;
- All hydroelectric installations with a capacity of between 50 and 150 MW;
- All thermal energy projects with a capacity of between 25 and 50 MW;
- Sports fields with accommodation for more than 5000 spectators or events more than 3 hours in length; and
- All hydroelectric dams with a dam surface of between 200 and 500 ha;

Agriculture and stock farming

- All projects relating to the establishment or rehabilitation of irrigation agriculture or dry land agriculture of between 200 and 1000 ha; and
- Semi-industrial and small-scale stock-farming projects;

Renewable natural resources

- Forestry operations greater than 150 ha;
- Capture and sale of species for export;
- Creation of terrestrial or marine parks and reserves at a community and private scale;
- Reintroduction of native species of Madagascar into an area where they were previously known;
- Permanent utilisation or diversion of watercourses accounting for more than 50% of their mean annual flow;
- All permits for the collection and sale of species for export; and
- Augmentation of fishing stocks in the marine zone (a study of existing fish stocks would be required).

Tourism and hotel industry

- Establishment of hotels with a capacity of between 50 and 120 bedrooms;
- Establishment of recreation and tourism developments with a combined surface area of between 2 and 20 ha; and
- All restaurants with a seating capacity of between 60 and 250 persons.

Industrial sector

- All industrial developments that require authorisation in terms of the regulations and requirements of Law No. 99-021 pertaining to the management policy for the control of industrial pollution; and
- All small-scale units that transform or process natural products.

Management of diverse products and waste

- Storage of pharmaceutical products of more than 3 tonnes.

Mining sector

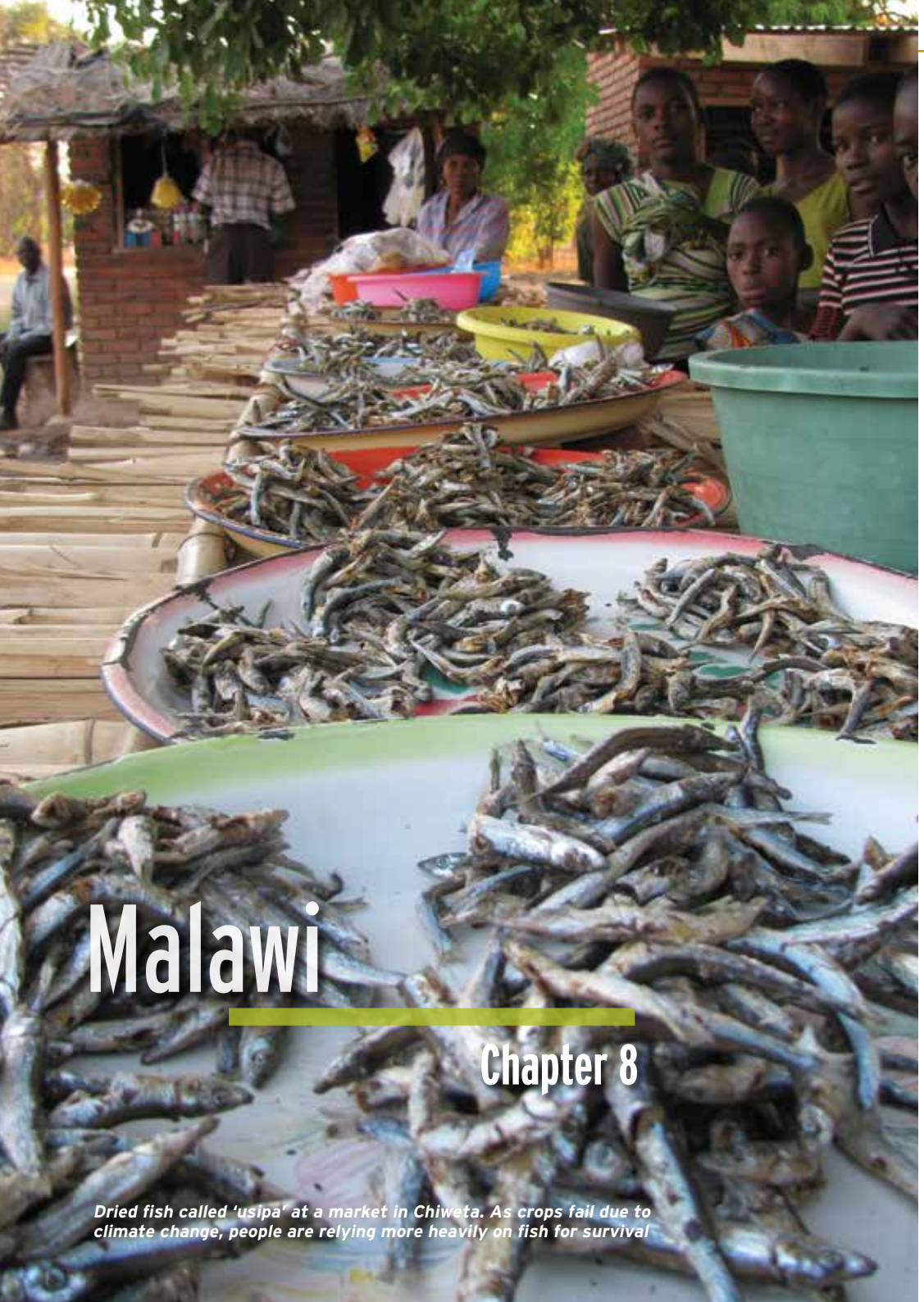
- All mineral prospecting projects;
- All exploitation or extraction of minerals by artisans;
- Mining of rare minerals;
- All artisanal gold panning operations mobilising more than 20 people in a radius of more than 500 m;
- Stockpiles with a combined capacity of more than 4000 m^3;
- Underground storage of more than 100 m^3; and
- Quarries for stone using mechanical methods.

Acronyms

ECTE	Comité Technique d'Evaluation (Technical Evaluation Committee)
EIA	environmental impact assessment
EMP	environmental management plan
MECIE	Mise en Compatibilité des Investissements avec l'Environnement (Ensuring the Environmental Suitability of Investments)
MEEFT	Ministère de l'Environnement, de l'Eau, Forêts et Tourisme (Ministry of Environment, Water, Forests and Tourism)
NEAP	National Environmental Action Plan
ONE	Office National de l'Environnement (National Office for the Environment)
PCB	polychlorobiphenyls
PREE	Programme d'Engagement Environnemental (Programme of Environmental Engagement)

Useful contacts

Department	Ministry	Telephone	Fax	Website
Office National de l'Environnement (ONE)	Ministry of Environment Forests and Tourism	+261 20 22 25999	+261 20 30693	www.pnae.mg one@pnae.mg www.meeft.gov.mg



Malawi

Chapter 8

Dried fish called 'usipa' at a market in Chiweta. As crops fail due to climate change, people are relying more heavily on fish for survival

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Malawi

8.1 Constitutional requirements for environmental protection in Malawi

The Constitution of Malawi (1994, as amended) recognises that responsible environmental management can make an important contribution towards achieving sustainable development, improved standards of living, and conservation of natural resources. The Constitution states that the environment of Malawi should be managed in order to:

- Prevent the degradation of the environment.
- Provide a healthy living and working environment for the people.
- Accord full recognition of the rights of future generations by means of environmental protection.
- Conserve and enhance biological diversity.

The government developed the National Environmental Action Plan in 1994 through broad public participation. It provides the framework for integrating environmental protection and management in all national development programmes with the view to achieving sustainable socio-economic development. The Action Plan is also used as a reference document to guide planners, developers and donors.[1] Its main objectives include the following:[2]

- Document and analyse all major environmental issues and identify measures to alleviate them.
- Promote the sustainable use of natural resources.
- Develop an environmental protection and management plan.

In addition, Malawi's Vision 2020 presents the long-term development perspective:

> *By the year 2020, Malawi, as a God-fearing nation, will be secure, democratically mature, environmentally sustainable, self-reliant with equal opportunities for and active participation by all, having social services, vibrant culture and religious values and a technologically driven middle-income economy.*[3]

Embodied in Vision 2020 is the desire to achieve sustainable economic growth and development based on a multi-sectoral approach.

1 Spong, P-J & Walmsley, B, 2003. Country Chapter: Malawi. In: SAIEA (Southern African Institute for Environmental Assessment), *EIA in southern Africa*. Windhoek: SAIEA, pp. 101-7.
2 Department of Research and Environmental Affairs, 1994. *National Environmental Action Plan*, Vol. 1. Lilongwe: Ministry of Research and Environmental Affairs.
3 National Economic Council, 2000. Vision 2020 – *The national long-term development perspective of Malawi: A summary*. Lilongwe: Hansa Reproprint.

The Malawi Growth and Development Strategy is the overarching medium-term operational strategy for Malawi, designed to attain the nation's Vision 2020. The main thrust of the Strategy is to create wealth through sustainable economic growth and infrastructure development as a means of achieving poverty reduction. This is expected to transform the country from a predominantly importing and consuming economy to a predominantly manufacturing and exporting economy.

8.2 Institutional and administrative structure for environmental impact assessment in Malawi

8.2.1 Environmental Affairs Department

The Environmental Affairs Department (EAD) in the Ministry of Natural Resources, Energy and Environment is responsible for the administration, implementation and monitoring of environmental impact assessment (EIA). Figure 8.1 illustrates the decision-making structures, while the EIA process is described in more detail in section 8.4.

The EAD provides procedural and technical advice to developers, as required, on how best to comply with EIA requirements. It maintains a directory of local, regional and international consultants capable of carrying out EIA studies. The EAD also maintains a register of all projects currently being appraised under the EIA requirements of the Environment Management Act (EMA), No. 23 of 1996.

While the EAD has statutory responsibility for ensuring compliance with EIA requirements, it relies substantially upon the expertise and advice of the interagency Technical Committee on the Environment (TCE) established under section 16 of the EMA. The TCE has a rotating chairperson and the EAD provides secretariat support. Through the TCE, member agencies are informed about projects being appraised under the EIA requirements; participate in reviews of Project Briefs, EIA Terms of Reference and EIA reports; develop terms and conditions for project approval; develop and monitor project auditing programmes; and recommend courses of action to the Director. The Director acts on the advice of the TCE but is not bound by it.

8.2.2 Roles and responsibilities

EIA activities involve the participation of a number of agencies with varying responsibilities.[4] These agencies and their responsibilities are outlined below.

The Environmental Affairs Department is responsible for:

- Facilitating the EIA process;
- Ensuring compliance with EIA provisions in the EMA;
- Managing the production and updating of guidelines on EIA practice and procedures;
- Preparing sector-specific guidelines on EIA practice and procedures;
- Updating the list of prescribed projects;
- Acting as the Secretariat to the TCE and the National Council for the Environment;
- Maintaining a register of projects being appraised under the EIA process;
- Maintaining a central library of EIA reports; and
- Maintaining a directory of local, regional and international consultants capable of carrying out EIA studies.

The *Technical Committee on the Environment* is responsible for:

- Evaluating Project Briefs, EIA Terms of Reference and EIA reports;
- Developing terms and conditions for project approval;
- Reviewing and monitoring project auditing programmes;
- Recommending courses of action to the Director; and
- Reporting to the National Council for the Environment.

The *National Council for the Environment* is responsible for:

- Advising the Minister on all matters affecting the protection and management of the environment and the conservation and sustainable utilisation of natural resources;
- Recommending measures for the integration of environmental considerations in all aspects of economic planning and development; and
- Recommending measures for the harmonisation of the activities, plans and policies of lead agencies and non-governmental organisations concerned with the protection and management of the environment and the conservation and sustainable utilisation of natural resources.

4 EAD (Environmental Affairs Department), 1997. *Guidelines for environmental impact assessment in Malawi.* Lilongwe: Ministry of Forestry, Fisheries and Environmental Affairs.

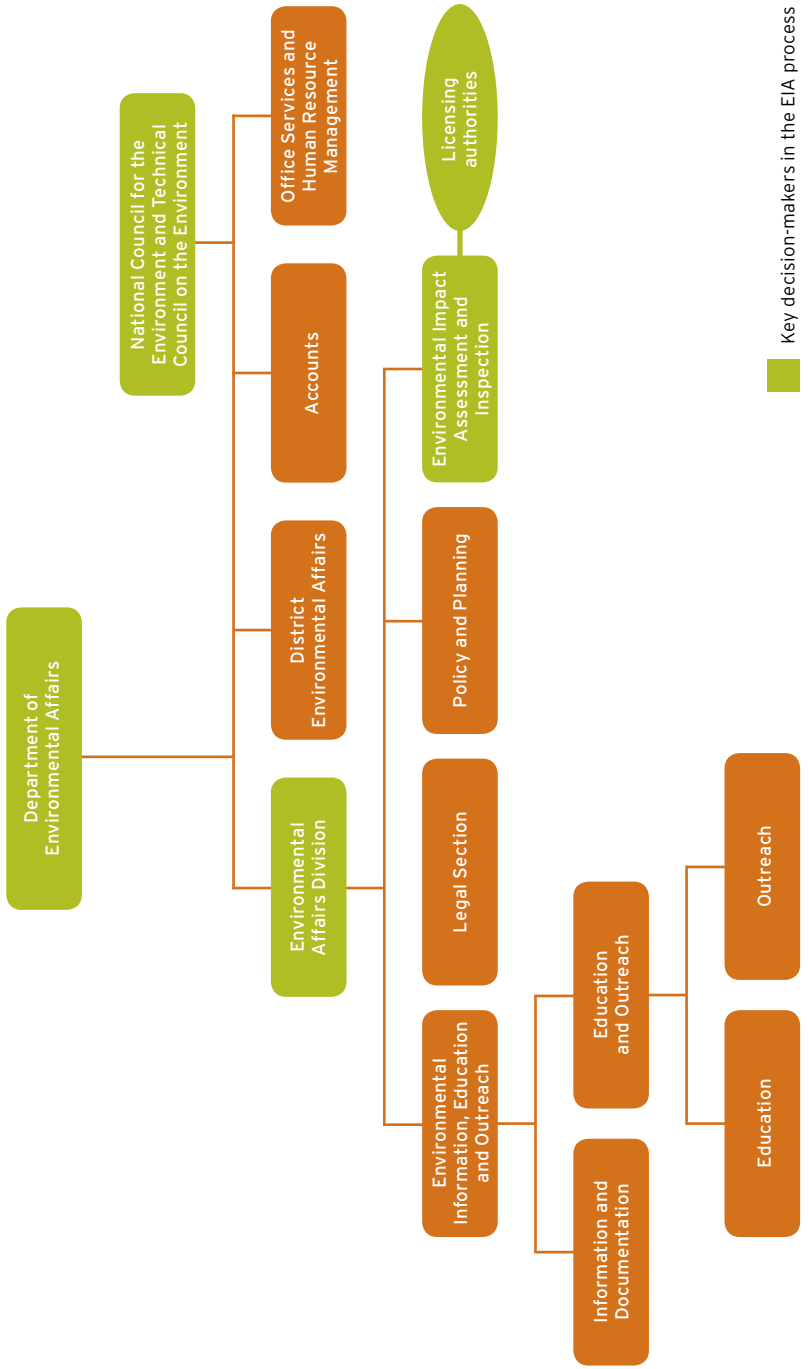


Figure 8.1: Environmental Affairs Department organogram

The *Ministry of Economic Planning and Cooperation* is responsible for:

- Determining if public sector projects are prescribed under the EMA and referring Project Submission Documents to the Director of Environmental Affairs;
- Participating in the TCE; and
- Working with the EAD and the TCE to develop and streamline their working relationship on EIA activities.

The *sectoral or line ministries* are responsible for:

- Ensuring that their own projects prescribed under the EMA adhere to the EIA requirements;
- Ensuring that private sector projects over which they have jurisdiction adhere to the EIA requirements;
- Participating in the TCE;
- Providing information and advice to project developers;
- Advising project developers on regulations and monitoring requirements related to licensing their projects;
- Incorporating EAD-approved terms and conditions in EIA Certificates; and
- Ensuring that the terms and conditions contained in the EIA Certificate are met, including those specified by the Director of Environmental Affairs.

8.2.3 Decentralisation of EIA administration

Following the acceptance of the policy of decentralisation in 1998, the government is in the process of decentralising its activities, including the EIA administration process.[5] It is hoped that with decentralisation to district levels, EIA monitoring will improve and the EIA process will be more effective and efficient (provided that each district is adequately staffed and resourced). Section 20 of the EMA provides for the appointment of an Environmental District Officer as a member of the District Development Committee, whose tasks will include the following:

- Undertake environmental inspections and monitoring in the district.
- Supervise the preparation of a District Environmental Action Plan every five years.
- Advise the District Development Committee on all matters relating to the environment and on the performance of its environmental functions.
- Report to the Director on all matters relating to the protection and management of the environment and the conservation and sustainable utilisation of natural resources.
- Submit reports to the Director as s/he may require.
- Promote environmental awareness in the district regarding the protection and management of the environment and the conservation of natural resources.
- Gather and manage information on the environment and the utilisation of natural resources in the district.
- Perform such other functions as the Director may, from time to time, assign to him/her.

However, the decentralisation process has been slow to take effect and all EIA decision-making is still centralised at the EAD in Lilongwe.

8.2.4 Intersectoral cooperation

The framework for intersectoral collaboration is well established in Malawi (see Table 8.1). Coordination is ensured through the secretariat services that the Director of Environmental Affairs provides to the National Council for the Environment, which reports to the Minister through the Chair.

Table 8.1: Intersectoral collaboration

Institution	Joint committees	Members	Frequency of meetings
Environmental Affairs Department	National Council for the Environment	Principal Secretaries, heads of selected parastatals	Quarterly
Environmental Affairs Department	Technical Committee on the Environment	Experts from different sectors appointed in their personal capacities, e.g. Malawi Bureau of Standards, University of Malawi, Forestry Department, Fisheries Department, National Herbarium and Botanical Gardens	Eight times a year
Ministry of Irrigation and Water Development	Water Resources Board	Cross-sectoral	Six times a year
Ministry of Irrigation and Water Development	Pollution Control Committee	Cross-sectoral	Six times a year
Ministry of Irrigation and Water Development	Kamuzu Barrage Control Committee	Cross-sectoral	Quarterly
Ministry of Irrigation and Water Development	Water Abstraction Control Committee	Cross-sectoral	Six times a year
Mines Department	Mining Licensing Committee	Cross-sectoral	Monthly

5 Spong & Walmsley, 2003.

Table 8.1: Intersectoral collaboration *(continued)*

Institution	Joint committees	Members	Frequency of meetings
Local authorities	Town Planning Committee	Cross-sectoral (appointed and ex officio members), e.g. the EAD, the Electricity Supply Commission of Malawi (ESCOM) and the Lilongwe Water Board	Monthly
Physical Planning	Town Planning Board	Cross-sectoral (appointed and ex officio members), e.g. the EAD, ESCOM, the Ministry of Irrigation and Water Development, the Ministry of Health and Population, and the Ministry of Transport and Public Works	Biannually

In addition, all natural resource management policies and/or legislation have clauses on the protection of the environment, natural resources and the promotion of sustainable development (see Table 8.2).

Table 8.2: Legislation with clauses to protect the environment

Focus of the clause	Land	Forestry	Parks and wildlife	Water resources	Fisheries
Promote and protect natural resources	X	X	X	X	X
Sustainable development	X	X	X	X	X
Community management	X	X	X	X	X
Poverty alleviation	X	X	X	X	X
Fragile ecosystems	X	X	X	X	X
Degradation	X	X	X	X	X

8.3 Policy and legal framework for EIA in Malawi

8.3.1 National Environmental Policy, 1996

Overall policy goal

The overall policy goal is the promotion of sustainable social and economic development through the sound management of the environment in the country.

Specific policy goals

The policy seeks to meet the following goals:

- Secure for all persons resident in Malawi, now and in the future, an environment suitable for their health and wellbeing.
- Promote the efficient utilisation and management of the country's natural resources and encourage, where appropriate, long-term self-sufficiency in food, fuel wood and other energy requirements.
- Facilitate the restoration, maintenance and enhancement of the ecosystems and ecological processes essential for the functioning of the biosphere and the prudent use of renewable resources.
- Enhance public awareness of the importance of sound environmental understanding of various environmental issues and participation in addressing them.
- Promote cooperation with other governments and relevant international and regional organisations, local communities, non-governmental organisations and the private sector in the management and protection of the environment.

Guiding principles

Underpinning these broad policy goals are certain important principles that will guide policy development and implementation strategies:

- Every person has a right to a clean and healthy environment and a duty to maintain and enhance the environment.
- Children should be sensitised about environmental issues, with a view to involving them in the conservation, protection and management of the environment as future custodians.
- Women should be closely involved in policy, programme and project design and implementation to enhance their role in natural resource use and management activities.
- The use of renewable natural resources should be sustainable for the benefit of the present and future generations.
- Malawi's economy is highly dependent on natural resources. If these are depleted or degraded, long-term food security and sustainable economic growth will be seriously affected.
- The participation of the private sector, non-governmental and community-based organisations is critical to the improved protection, conservation, management and sustainable utilisation of Malawi's natural resources.
- Community-based management and revenue sharing from the sustainable utilisation of natural resources on customary and public lands will be encouraged.
- Regulation will be complemented by social and economic incentives to influence the behaviour of individuals or organisations to invest in sustainable environmental management.
- Regular and accurate assessment, monitoring and dissemination of information on environmental conditions will be assured.
- Trade-offs between economic development and environmental degradation will be minimised through the use of EIA and natural resource monitoring.
- Rational and secure tenure over land and resources is a fundamental requirement for sustainable natural resource management.

- Some of Malawi's natural resources, such as Lake Malawi, national parks and forest reserves, are particularly affected by the activities of the country's neighbours and those of the region at large. This calls for concerted efforts in the preparation of policies and plans for their utilisation, management and conservation to ensure sustainable regional development.

Note that because the Constitution of Malawi prohibits all forms of discrimination, all policies and laws are assumed to be gender-neutral, with no special recognition of women or other disadvantaged people.

8.3.2 Environment Management Act

The EIA legislation is contained in the *Environment Management Act (EMA), No. 23 of 1996*. The Act outlines the EIA process to be followed and provides the enabling legislation to develop EIA guidelines to ensure compliance with the EIA requirements. The Act makes EIA a statutory requirement, and a listed project cannot be licensed and implemented until a satisfactory EIA study has been completed and approved.

In the EIA Guidelines (1997), the term 'environment' is defined as 'the physical factors of the surroundings of the human being including land, water, atmosphere, climate, sound, odour, taste and the biological factors of fauna and flora and includes the cultural, social and economic aspects of human activity, the natural and built environment'.

EIA provisions in the EMA are found in sections 24–27, 29 and 63, 69 and 76. These are summarised below.

Section 24 – Projects for which an Environmental Impact Assessment may be required

1) The Minister may, on the recommendation of the Council, specify, by notice published in the Gazette, types and sizes of projects which shall not be implemented unless an environmental impact assessment is carried out. (The list of projects is provided in Appendix 8-1).

2) A developer shall, before implementing any project for which an environmental impact assessment is required under subsection (1), submit to the Director, a Project Brief stating in a concise manner:
   a) The description of the project;
   b) The activities that shall be undertaken in the implementation of the project;
   c) The likely impact of those activities on the environment;
   d) The number of people to be employed for purposes of implementing the project;
   e) The segment or segments of the environment likely to be affected in the implementation of the project;
   f) Such other matters as the Director may in writing require from the developer or any other person who the Director reasonably believes has information relating to the project.

3) Where, upon examining the Project Brief, the Director considers that further information is required to be stated in the Project Brief before an environmental impact assessment is conducted, the Director shall require the developer, in writing, to provide, such further information as the Director shall deem necessary.

Section 25 – Environmental Impact Assessment Reports

1) Where the Director considers that sufficient information has been stated in the Project Brief under Section 24, the Director shall require the developer, in writing, to conduct, in accordance with such guidelines as the Minister may, by notice published in the Gazette prescribe, an environmental impact assessment and to submit to the Director, in respect of such assessment, an environmental impact assessment report giving:
   a) A detailed description of the project and the activities to be undertaken to implement the project;
   b) The description of the segment or segments of the environment likely to be affected by the project and the means for identifying, monitoring and assessing the environmental effects of the project;
   c) The description of the technology, method or process to be used in the implementation of the project and any available alternative technology, method or process, and reasons for not employing the alternative technology, method or process;
   d) The reasons for selecting the proposed site of the project as opposed to any other available alternative site;
   e) A detailed description of the likely impact the project may have on the environment and the direct, indirect, cumulative, short-term and long-term effects on the environment of the project;
   f) An identification and description of measures proposed for eliminating, reducing or mitigating any anticipated adverse effects of the project on the environment;
   g) An indication of whether the environment of any other country or of areas beyond the limits of national jurisdiction is or is likely to be affected by the project and the measures to be taken to minimize any damage to the environment;
   h) An outline of any gaps, deficiencies and the adverse environmental concerns arising from the environmental impact assessment and from the compilation of the environmental impact assessment report;

i) A concise description of the method used by the developer to compile the information required under this section.

2) The environmental impact assessment report shall be open for public inspection provided that no person shall be entitled to use any information contained therein for personal benefit except for purposes of civil proceedings brought under the Act or under any written law relating to the protection and management of the environment or the conservation or sustainable utilisation of natural resources.

Section 26 – Review of Environmental Impact Assessment Reports

1) Upon receiving the environmental impact assessment report, the Director may invite written or oral comments from the public thereon, and where necessary may:
   a) Conduct public hearings at such place or places as the Director deems necessary for purposes of assessing public opinion therein;
   b) Require the developer to redesign the project or to do such other thing as the Director considers desirable, taking into account all the relevant environmental concerns highlighted in the environmental impact assessment report, any comments made by the public and the need to achieve the objectives of the Act;
   c) Require the developer to conduct a further environmental impact assessment of the whole project or such part or parts of the project as the Director may deem necessary, or to revise the information compiled in the environmental impact report;
   d) Recommend to the Minister to approve the project subject to such conditions as the Director may recommend to the Minister.

2) In considering whether or not to recommend to the Minister the approval of any project or of any condition, the Director shall take into account any likely impact of the project on the environment and the actual impact of any existing similar project on the environment.

3) A licensing authority shall not issue any licence under any written law with respect to a project for which an environmental impact assessment is required under the Act unless the Director has certified in writing that the project has been approved by the Minister under this Act or that an environmental impact assessment is not required under this Act.

Section 27 – Environmental Audits

1) The Director shall, in consultation with such lead agency as he may consider appropriate, carry out or cause to be carried out periodic environmental audits of any project for purposes of enforcing the provisions of this Act.

2) For purposes of subsection (1), the Director, may require a developer to keep such records and submit to the Director such reports as the Director may deem necessary.

3) A developer shall take all reasonable measures for mitigating any undesirable effects on the environment arising from the implementation of a project which could not reasonably be foreseen in the process of conducting an environmental impact assessment and shall, within a reasonable time, report to the Director such effects and measures.

Section 28 – Monitoring Existing Projects

The Director shall take such measures as are necessary for ensuring that the implementation of any project commenced before the coming into force of this Act complies with the provisions of this Act.

8.3.3 Regulations

Section 77 in Part XIII of the EMA makes provision for the Minister to make regulations pertaining to any aspect of environmental management. To date, no regulations on EIA have been gazetted.

8.3.4 Permits and licences

The developer is required to obtain an EIA Certificate before s/he can commence operations. However, depending on the nature of the activity, s/he may require a number of other permits and licences, as shown in Table 8.3.

Table 8.3: Other applicable permits and licences

Act, Regulation or Bylaw	Permit or licence	Requirements	Implementing agency
Water Resources Act CAP 72.03	Water right	A permit is required to use and/or abstract water and/or build dams.	Water Resources Board: Water Abstraction Control Subcommittee
Water Resources (Water Pollution Control) Regulations	Effluent discharge consent	This aims to control water pollution. Effluent must conform to standards set by the Malawi Bureau of Standards.	Pollution Control Subcommittee
Environment Management Act, No. 23 of 1996, section 42	Air pollution licence	A licence is required to emit any gas or other pollutants into the atmosphere.	EAD
Environment Management Act, No. 23 of 1996, section 38	Waste licence	A licence is required to handle, store, transport, classify or destroy waste other than domestic waste, or operate a waste disposal site.	EAD

Table 8.3: Other applicable permits and licences *(continued)*

Act, Regulation or Bylaw	Permit or licence	Requirements	Implementing agency
Environment Management Act, No. 23 of 1996, section 39	Hazardous waste licence	A permit is required to import or export and transport any hazardous waste in Malawi.	EAD
Fisheries Conservation and Management Act, CAP 66.05	Fish farming licence	A licence is required to operate a fish farm.	Fisheries Department

8.3.5 Penalties

In terms of section 63, any person who contravenes section 24(3), fails to prepare an EIA report or knowingly gives false information in an EIA report, contrary to section 25, shall be guilty of an offence and be liable, upon conviction, to a fine of not less than K5000 and not exceeding K200 000, and to imprisonment for two years.

Section 76 – Closure of Premises

1) Where the Director believes, on reasonable grounds, that the Act or any regulations made thereunder have been contravened, the Director may, subject to subsection (2), order the closure of any premises by means of, or in relation to which the Director reasonably believes the contravention was committed.

2) The closure of any premises shall cease after the provisions of this Act or any regulations made thereunder have been instituted in respect of the contravention, in which event the premises shall remain closed until the proceedings are finally concluded.

8.3.6 Fees

According to section 29, the Minister may, by notice published in the Gazette, prescribe such fees as may be necessary for covering reasonable costs for scrutinising EIA reports and for the subsequent monitoring of a project approved for implementation under this Act. The review fees, as at 2006, were 30% of 1% of the total project costs.

8.3.7 Guidelines

Malawi has a comprehensive EIA Guidelines document, which was developed in 1997 to facilitate compliance with EIA requirements by government agencies, project developers, consultants and donors. The reader is referred to these Guidelines for detailed information on undertaking EIAs in Malawi.

In 2002, the EAD commissioned a series of sector guidelines on EIA, environmental management systems and auditing for:

- Mining projects;
- Irrigation and drainage projects;
- Sanitation projects; and
- Waste management projects.

Subsequently, draft EIA guidelines have been prepared for:

- Land developments, housing and human settlements;
- Tourism; and
- Water.

These provide comprehensive guidance for anyone wishing to develop a project in any of these sectors.

8.3.8 Environmental standards

Malawi is developing its own emissions standards. The standards developed to date by the Malawi Bureau of Standards are shown in Table 8.4.

Table 8.4: Environmental standards

13.020.10	Adoption of the ISO14000 series on environmental management
MS539:2002	Industrial effluents – tolerance limits for discharge into inland surface waters
MS691:2005	Tolerance limits for domestic sewage effluents discharged into inland surface waters
MS214:2005	Drinking water – specification
MS173:2005	Noise pollution – tolerance limits
MS326:2004	Incinerators – standard performance requirement for incineration plants for the destruction of hospital waste

In addition, the Bureau of Standards has developed Codes of Practice for a range of environmental management and pollution control activities, including disposal of surplus pesticides and associated toxic waste, the design and management of solid waste disposal sites, and the operation of effluent treatment plants.

Where Malawian standards do not yet exist, it is suggested that emission guidelines be taken from the *World Bank Pollution Prevention and Abatement Handbook*, which is a globally recognised standard. Other national, international and industry-specific guidelines that can be used are those of the World Health Organization, the European Union and the United States Environmental Protection Agency.

It is recommended that the developer consult with the Bureau of Standards and other appropriate authorities or agencies to ensure that s/he follows the guidelines applicable to the project.

8.3.9 Certification of consultants

At present, no formal structures exist for the certification and/or registration of consultants who wish to undertake EIAs in Malawi. Indeed, the legislation requires neither the names of the EIA team responsible for preparing the EIA report to be disclosed, nor any prior approval of the consultants by the EAD. There are also no requirements for the consultants to be independent of the proponent.

8.4 EIA procedural framework in Malawi

The EIA process involves several stages or procedures. As depicted in Figure 8.2, it begins with a determination by EAD as to whether a proposed project is prescribed under the EMA. If not, no further action on EIA requirements need to be undertaken. If it is prescribed, then a Project Brief must be submitted to the Director. The stages of the EIA process are described below.

8.4.1 Screening

Screening is a process of determining which projects should be subject to EIA requirements. The projects for which an EIA is mandatory are reflected in List A and those for which an EIA may be required are reflected in List B (see Appendix 8-1 for these lists).

8.4.2 Scoping

Scoping establishes the principal issues to be addressed in an EIA. A project team comprising the developer and a multidisciplinary team of experts performs the EIA. The composition of the team and the number of experts depend on the nature, location and scale of the proposed project. In Malawi, public consultation is not a mandatory part of scoping, but it is generally recognised best practice to embark on the public consultation process during scoping, rather than to leave it to the EIA stage.

The main output of the scoping process is the *Project Brief.* This document informs the Director that a project is being considered and provides a preliminary assessment of the project impacts. The contents of a Project Brief are stipulated in section 24 of the EMA (see section 8.3.2). Guidance on preparing Project Briefs is given in Appendix C of the EIA Guidelines.

For public sector projects, the Project Brief corresponds to the Project Submission Document used by the Ministry of Economic Planning and Cooperation for internal pre-appraisal. The Project Submission Document would be submitted to the Director at the completion of Stage 2 of the Ministry's project appraisal process.

When the Director receives a Project Brief, s/he refers it to the TCE for advice. Based on information in the Project Brief and established project screening criteria (see Appendix 8-2), the TCE assesses the need for an EIA and recommends a course of action to the Director.

The Director then determines whether an EIA is required. The guiding timeframes set out in Table 8.5 (in maximum number of working days) will be observed, starting from the date the Director receives the document.

Table 8.5: Timeframes for review of documents

Determining the need for an EIA once a Project Brief is received by the Director	15 days
Review of each draft of EIA Terms of Reference submitted to the Director	10 days
Review of first draft of an EIA report	50 days
Review of second and subsequent drafts of an EIA report	25 days

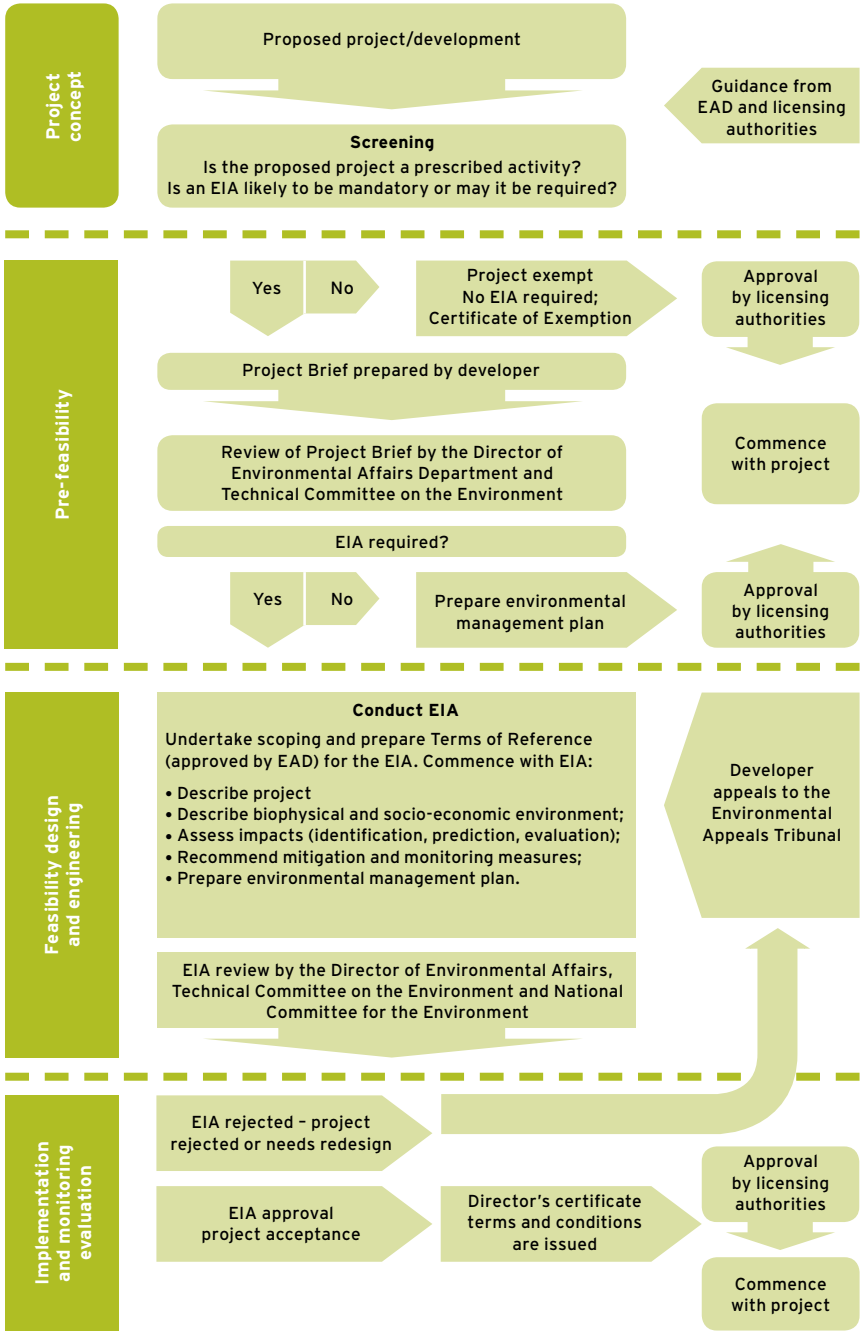
If an EIA is *not* required, the project is exempted from further compliance with the EIA requirements (see Figure 8.2). In such instances, the Director issues a Certificate of EIA Exemption, which advises the developer and relevant licensing authority of the exemption with, if appropriate, recommendations on the environmental management of the project. If an EIA is required, the Director informs the developer and/or appropriate government authorities that an EIA must be undertaken and an EIA report prepared at the proponent's expense.

8.4.3 Terms of Reference for EIA

Before EIA Terms of Reference are prepared and approved, the issues to be covered in the study and specified in the Terms of Reference will usually have been identified through scoping discussions between the Director of Environmental Affairs and the developer. Thus, scoping is vital to ensure that all potentially significant impacts are included in the study, that patently insignificant concerns are excluded, and that resources are conserved and used wisely. The Director may, on the advice of the TCE, require that a more formal scoping exercise be undertaken, perhaps involving consultations with the public, before the Terms of Reference are approved.

Guidance on preparing Terms of Reference for EIA is given in Appendix E of the EIA Guidelines, and sample Terms of Reference for EIA are given in Appendix F.

Figure 8.2: EIA process in Malawi



8.4.4 Environmental impact assessment

An EIA is a comprehensive assessment of the environmental impacts of a project and is based on Terms of Reference prepared by the developer and approved by the Director. The EIA report must contain at least the information required under section 25 of the EMA. Guidance on preparing EIA reports is provided in Appendix C of the EIA Guidelines. The EIA should be undertaken at the same time as the project feasibility studies (see Figure 8.2). For public sector projects, this will be during Stage 3 or 4 of the Ministry of Economic Planning and Cooperation's project appraisal process.

Public consultation is mandatory when undertaking an EIA. At a minimum, the proponent must meet with the principal stakeholders to inform them of the proposed activity and solicit their views on it. More problematic activities should involve more extensive consultations. The methods and results of these consultations must be documented in the EIA. Detailed guidance on public consultation is given in Appendix G of the EIA Guidelines. The main questions that need to be answered in the public consultation process and in the EIA report are shown in Table 8.6.

Table 8.6: Key questions to be addressed in the EIA study

Assessment stage	Key questions to be addressed
1. Identification	What will happen as a result of the project?
2. Prediction	What will be the extent of the change brought about by the project?
3. Evaluation and interpretation	Do the changes matter?
4. Mitigation	What can be done about the changes?
5. Monitoring and management	What are the monitoring and management plans?
6. Reporting	How can decision-makers be informed of what needs to be done, given the various alternatives?

When the Director receives a draft EIA, s/he initiates a review and refers the EIA to the TCE. This review is led by EAD staff, with the assistance of members of the TCE who have an interest in the project or expertise needed for the review. Depending on the complexity and scope of the project, individual outside experts or an independent review panel may be retained to advise the EAD/TCE. Guidance on evaluating the adequacy of an EIA is given in Appendix H of the EIA Guidelines.

EAD staff and/or TCE members may meet with non-governmental stakeholders to verify or extend the proponent's public consultation programmes. The EIA is also made available for public comment. If considered necessary by the TCE, the Director may call for a public hearing(s) on the EIA to solicit direct

comments from people who may be affected. Such hearings are provided for under section 26 of the EMA.

When the reviews are complete and consolidated, the Director meets with the developer and/or licensing authority to discuss the draft EIA and, if considered necessary by the TCE, require that corrections and/or additions be made before it is finalised. The TCE also reviews subsequent drafts of the EIA until a satisfactory report is produced.

The timeframes within which reviews of first and subsequent drafts of EIA should be completed are outlined in Table 8.5.

Based on the review and the advice of the TCE, the Director determines:

- That the project must be redesigned to eliminate or reduce adverse impacts and/or to enhance environmental benefits, and that the EIA report must be redone and resubmitted for the revised project; or
- That there is reasonable cause to believe that, even if it is redesigned or more detailed EIA studies are undertaken, the project will cause significant and irreparable impacts on the environment, and that the project is rejected; or
- That the project will not result in significant impacts on the environment and it is approved.

If the TCE approves the project, the developer is given an *EIA Certificate,* which may contain various terms and conditions of compliance.

8.4.5 Managing compliance with EIA results

To ensure that the project developer complies with the conditions contained in the EIA Certificate, the Director of Environmental Affairs requests the TCE to develop and implement a government audit programme, as per the requirements of section 27 of the EMA. It must be emphasised that the EAD's primary role in project auditing is to facilitate the development and implementation of audit programmes, and not to take over the responsibilities of the licensing authorities.

The EAD relies upon the normal regulatory functions of licensing authorities with jurisdiction over different aspects of project implementation to carry out the bulk of the auditing work in accordance with their statutory responsibilities.

In developing an audit programme, it is expected that the TCE will employ practices and procedures to:

- Assign lead audit responsibilities to licensing authorities with primary responsibility for the regulation of projects.
- Organise technical and logistical support for audit programmes from among the TCE members.
- Prescribe schedules of reports from developers and lead agencies to the TCE.
- Monitor and report on project audits to the Director.
- Where required, make recommendations to the Director for corrective action and/or penalties where developers are not complying with the environmental terms and conditions of project approvals.

The participation of lead agencies in the follow-up to the implementation of the EIA is important. For this reason, an environmental management and monitoring plan should form part of the EIA report to facilitate the monitoring and/or follow-up of the EIA process.

8.4.6 Strategic environmental assessment

Although strategic environmental assessments per se are not mentioned in the EMA or EIA Guidelines, the list of activities (List A of the EMA), includes 'major policy reforms' as one of the activities requiring an EIA. Although an EIA may not be the appropriate tool to assess policy reforms, the concept of a strategic environmental assessment was not in mainstream environmental practice when the Act was promulgated in 1996, and it is not surprising that such an assessment is not mentioned as a tool. This should not detract from the fact that some form of assessment is required for 'major policy reforms', as envisaged in the Act.

8.4.7 Transboundary impacts

In Appendix A of the EIA Guidelines, one of the components to be included in the EIA report is an 'indication of whether the environment of any other country or of areas beyond the limits of national jurisdiction is, or are likely, to be affected by the project and the measures to be taken to minimise any damage to the environment [of that country]'.

8.5 Other relevant environmental legislation in Malawi

Environmental issues cut across a variety of sectors, and numerous pieces of legislation in Malawi have a bearing on the environment and should be considered in EIA decision-making. The sectors, titles of the legislative instruments, the responsible agency and the purpose of the legislation are summarised in Table 8.7.

Table 8.7: Other potentially applicable sectoral requirements

Environmental component	Responsible agency	Title and date of legislation	Purpose
Water resources (use of)	Ministry of Irrigation and Water Development: Water Resources Board Water Abstraction Control Subcommittee	Water Resources Act, CAP 72.03 (1969)	The Act governs water rights (permits), water abstraction, pollution control, the building of dams, and water resources planning and development.
		Water Works Act, CAP 72.01 (1995)	The Water Resources Board oversees water resources management policies as outlined in the Act and Regulations, and monitors water use and quality.
		National Water Policy, 2005	The National Water Policy outlines strategies for addressing the many challenges and threats facing the water and sanitation sector in an integrated manner in order to contribute effectively towards achieving the National Development Agenda.
Effluent (disposal)	Ministry of Irrigation and Water Development: Pollution Control Subcommittee Malawi Bureau of Standards[6]	Water Resources (Water Pollution Control) Regulations	The Regulations relate to the control of water pollution, the discharge of effluent into public water, and the analysis of water and effluent. Effluent discharge consents are issued in terms of the Regulations.
		Part VIII of EMA, section 42 relates to the prevention of pollution.	A licence is required from the Minister to discharge effluent (section 43 of EMA).
Air		Part VIII of EMA, section 42 relates to the prevention of pollution.	A licence is required from Minister to emit any gas or other pollutants (section 43 of EMA).
Noise		No particular statute	-
Waste	Ministry of Natural Resources, Energy and Environment	Section 37 of EMA	This gives power to the Minister to promulgate regulations regarding the control, management, transport, treatment, recycling and safe disposal of all waste, including hazardous waste.
		Section 38 of EMA A multitude of Acts, Regulations and local bylaws control waste management.	A licence is required to handle, store, transport, classify or destroy waste other than domestic waste, or operate a waste disposal site.
		Section 39 of EMA	A permit is required to import or export and transport any hazardous waste in Malawi.
	Local authorities	Various bylaws	Each town is responsible for municipal waste disposal.
Planning and zoning	District Officers	Part IV of EMA, sections 19 and 23	District Environmental Action Plans are to be drawn up every five years, in conformance with the National Environmental Action Plan. Development in each District must be in accordance with the District Environmental Action Plan.
Forestry	Ministry of Natural Resources, Energy and Environment: Forestry Department	National Forestry Policy (1996)	This relates to the control and regulation of forest products; the declaration of forest reserves; the protection, control and management of forest products; tree planting and other enterprises.
		Forestry Act, CAP 63.01 (1997)	
		Forest Rules	The Rules contain regulations in forest areas on reforestation, felling, etc.
Mining and mineral resources	Ministry of Natural Resources, Energy and Environment: Mines Department	Mines and Minerals Act, CAP 61.01 and Regulations	The Act governs mining and quarrying licences, as well as the protection of the environment and natural resources.
		Explosives Act, CAP 14.09 and Regulations	The Act governs licences for the storage, possession and use of explosives, and the issuing of blasting licences.
		Petroleum (Applications) Regulations, CAP 61.01	The Regulations control the search for and production of petroleum, and provides for the protection of the environment, exploration and licensing.

6 The Malawi Bureau of Standards is developing standards for effluent quality, air emissions and noise, but in the absence of any specific standards, the World Bank and World Health Organization standards are used.

Table 8.7: Other potentially applicable sectoral requirements *(continued)*

Environmental component	Responsible agency	Title and date of legislation	Purpose
Wildlife and natural resources	Ministry of Natural Resources, Energy and Environment: Department of National Parks and Wildlife	National Parks and Wildlife Act, CAP 66.07 (1992), as amended, and Regulations	The Act relates to the establishment of national parks and the preservation of animals, vegetation and objects of special interest In national parks. The Regulations are related to hunting, sale and trade of hunting trophies, protected areas and species.
		Game Act, CAP 66.03	The Act relates to the preservation and control of game in controlled areas and game reserves.
Plants	Ministry of Agriculture and Food Security	Plant Protection Act, CAP 64.01	The Act relates to the eradication of pests and diseases, and controls the export and import of plants.
		Noxious Weeds Act, CAP 64.02	The Act relates to the eradication of noxious weeds.
		Council for National Herbarium and Botanic Gardens of Malawi Act, CAP 41	The Act relates to the development and management of herbaria and botanic gardens.
Agriculture	Ministry of Agriculture and Food Security	Special Crops Act, CAP 65.01	The Act controls the development and marketing of crops.
		Tobacco Act, CAP 65.02	The Act relates to the production, manufacture and marketing of tobacco.
		Cotton Act, CAP 65.04	The Act relates to the production, marketing and processing of cotton.
Land	Ministry of Lands, Physical Planning and Surveys: Town Planning Board	Land Act, CAP 57.01 (1965) Customary Land (Development) Act, CAP 59.01 (1967) Registered Land Act, CAP 58.01 (1967) National Lands Policy (2002)	The Act relates to customary, public and private land, and the use of such land.
Fisheries	Ministry of Natural Resources, Energy and Environment: Fisheries Department	Fisheries Conservation and Management Act, CAP 66.05 (1997) Regulations (2002) National Fisheries and Aquaculture Policy (2001)	The Act relates to the regulation and control of fishing, and prohibits the use of explosives and poison. Fish Farming Licences are issued in terms of this Act.
Industrial infrastructure and urban development	Various	Industrial Development Act, CAP 51.01 Electricity Act, CAP 73.01 Public Roads Act, CAP 69.02	The Act controls the orderly development of industry. The Act contains environmental provisions for the clearing of land and for transmission lines. The Act provides for matters relating to public roads, including maintenance and compensation.
Health		Public Health Act, CAP 34.01	The Act relates to the prevention of infectious diseases, sanitation and housing, sewerage and drainage.
Historic monuments		Monuments Act, CAP 29.01	The Act provides for the protection of places of distinctive natural beauty and historic sites, buildings, etc.

Appendix 8-1

List of prescribed projects

As prescribed under section 24(1) of the EMA, the types of projects for which an EIA is mandatory are provided in List A.

List A: List of projects for which an EIA is mandatory

AI Agriculture/aquaculture projects

1. Agricultural drainage projects of more than 1 ha.
2. Irrigation schemes designed to serve more than 10 ha.
3. Land development for the purposes of agriculture on greater than a 20 ha land holding.
4. Agricultural projects necessitating the resettlement of 20 or more families. Any change from one agricultural land use to another on greater than a 20 ha land holding.
5. Use of more than 1 ton of fertiliser per hectare per annum on greater than a 20 ha landholding, except for lime applications.
6. Use of the following concentrations of pesticides on greater than a 5 ha holding:
   - More than 5 l/ha of ultra-low-volume pesticides per application; or
   - More than 1 l/ha of aerial application of pesticides; or
   - More than 20 kg/ha for each application of granular pesticides.
7. Construction of fish-farming or ornamental pond(s) where the capacity is greater than 100 m^3 or where there is any direct discharge from a fishpond to a receiving water body.
8. Any proposal to introduce fish species in an area where they do not presently exist.

A2 Projects in the food and beverage production industry

1. Construction of new abattoirs or slaughtering houses with a capacity of greater than 100 animals/day and expansions to existing abattoirs or slaughtering houses to a capacity of greater than 100 animals/day.
2. Construction of new canning and bottling operations with workspace of greater than 5000 m^2 or expansion to an existing canning or bottling operation to a workspace of greater than 5000 m^2.
3. Construction of new breweries and distilleries with a production capacity of greater than 25 000 litres per day, or expansions to existing breweries or distilleries to a production capacity of greater than 25 000 litres per day.
4. Construction of new sugar production operations or expansions to existing sugar production operations by greater than 10%.
5. Construction of or expansions to tea or coffee processing industries.

A3 Water resources development

1. Construction or expansion of groundwater utilisation projects, where the utilisation will be greater than 15 1/s or where the well is 60 m or deeper.
2. Construction of new water pipelines or canals longer than 1 km, or expansion to existing water pipelines or canals by longer than 1 km, where the cross-sectional area is greater than 20 m^2 and the volume of water to be carried will be greater than 50 m^3 per second.
3. Water pumping stations adjacent to lakes, rivers and reservoirs that withdraw more than 2 m^3 per second.
4. Drinking water supply schemes to serve a population of greater than 10 000 people, or expansions of existing schemes to serve such a population, or water reticulation networks with more than 10 km of pipeline.
5. Area of greater than 100 ha, or expansions of existing reservoirs by greater than 500 000 litres or greater than 100 ha.
6. Construction or expansion of dams with a height of 4.5 m or higher.

A4 Infrastructure projects

1. Construction of new sanitary sewerage works, or expansion of existing sanitary sewerage works, to serve a population of more than 5000 people.
2. Construction of new storm sewerage works, or expansion of existing storm sewerage works, to drain an area of greater than 10 ha.
3. Any new sewerage outfall to a receiving water body or location of sewerage systems or septic tanks within 1 km of a water body.
4. Construction or expansion of septic tanks servicing more than 100 people or 20 homes or which receive more than 100 m^3 per day of wastewater.
5. Construction of new highways and feeder roads or expansion of existing highways and feeder roads.
6. Construction of new airport and airstrips or expansion of existing and airstrips and their ancillary facilities.
7. Construction of hospitals with a bed capacity of greater than 200 beds, or expansions of existing hospitals to a capacity of greater than 200 beds.
8. Construction of new or expansions to existing railway lines.
9. Construction of new or expansions to existing port or harbour facilities.
10. Establishment or expansion of industrial estates.

A5 Waste management projects

1. Establishment or expansion of any of the following hazardous waste management facilities:
   i. Incineration plant
   ii. Off-site recovery plant
   iii. Off-site waste disposal facility
   iv. Off-site storage facility
   v. Landfill site

2. Establishment or expansion of any of the following municipal solid waste management facilities serving a population of greater than 1000 people:
   i. Landfill site
   ii. Incineration facility
   iii. Composting facility
   iv. Recovery/recycling facility
   v. Waste depots/transfer stations
   3. Establishment or expansion of on-site waste treatment facilities.

A6 Energy generation, transmission and storage projects

1. Construction or expansion of electrical generating facilities designed to operate at greater than 4 MW or, in the case of hydroelectric generating facilities, where the total head is greater than 20 m or where there is a firm flow of 100 m^3 per second.
2. Construction of electrical transmission facilities operating at a voltage of 132 kV or greater.
3. Construction or expansion of oil and gas pipelines longer than 1 km.
4. Construction or expansion of storage facilities (excluding services station) for oil, gas, petrol or diesel, located within 3 km of commercial, industrial or residential areas and with a storage capacity of 500 000 litres or more.
5. All activities associated with nuclear power development.

A7 Industrial projects

1. Construction of and expansions to industries involving the use, manufacturing, handling, storage, transport or disposal of hazardous or toxic chemicals, as regulated under the hazardous chemicals regulation under the EMA.
2. Construction of, or expansion to, any of the following industrial operations:
   i. Tanneries
   ii. Pulp and paper mills
   iii. Lime plants
   iv. Cement plants
   v. All types of smelters
   vi. Soap and detergent plants
   vii. Fertiliser manufacturing operations
3. Construction of textile manufacturing operations (including carpet-making) which consume greater than 5000 m^2 of surface area, or expansions to existing textile manufacturing operations to a capacity of more than 5000 m^2.

A8 Mining and quarrying projects

1. All mining of minerals, expansions to mines, mining exploration activity, minerals prospecting activity, quarries, gravel pits and removal of sand or gravel from shorelines, except for those activities that have received a project-specific exemption under subsection 26(3) of the EMA, signed by the Director for Environmental Affairs and co-signed by the Director of Mines.
2. Explosives manufacturing
3. Extraction of topsoil or the expansion of such an operation, when the operation or the expansion is greater than 0.5 ha or when the depth of a pit to burn bricks from the topsoil is deeper than 3 m.

A9 Forestry projects

1. Establishment or expansion of logging operations covering an area of greater than 50 ha.
2. Establishment of or expansions to existing logging operations on hillsides with a slope of greater than 10%, covering an area of greater than 10 ha, or any conversion of forested land with a slope of greater than 10% to another land use on greater than 10 ha.
3. Establishment of logging or conversion of forested land to another land use within the catchment area of reservoirs.
4. Establishment of forest plantations of greater than 50 ha.

A10 Land development, housing and human settlement projects

1. Establishment of or expansion to an existing housing development of a size greater than 5 ha or where more than 500 people are intended to be housed.
2. Resettlement programmes for 500 or more people or the creation of refugee camps intended to shelter 500 or more people.
3. Filling in water bodies for the purposes of land development, where the surface area of gross fill deposit is greater than 50 ha.
4. Land reclamation projects greater than 100 ha.

A11 Remedial flood and erosion control projects

1. Construction of breakwaters, seawalls, jetties, dykes and groynes of greater than 2 m in height or 1 km in length to remedy shoreline erosion or flooding.
2. Construction of dams or weirs with a height of greater than 2 m, or which divert more than 20 m^3 per second, or any bypass channels or channel realignments to remedy riverine erosion or flooding.
3. Shoreline stabilisation projects where the shoreline involved is greater than 50 m.

A12 Tourism development projects

1. Construction of resort facilities and hotels with a capacity of more than 50 people, or expansions to existing facilities by a factor of greater than 50 people.

2. Construction of safari lodges and operations with a capacity of more than 50 people, or expansions to existing facilities by factor of greater than 50 people.
3. Construction of marine facilities with more than 10 boat slips, or expansion of existing marine facilities by more than 10 boat slips.
4. Development of tourism master plans that have several projects associated with them.

A13 Projects in proximity to or which have the potential to affect:

1. Areas of unique historical, cultural, scientific or geographical significance or which have received some kind of World Heritage designation
2. National parks, game reserves and protected areas
3. Wetlands
4. Water bodies
5. Flood zones
6. Major sources of drinking water, including communal wells
7. Cemeteries or ancestral shrines
8. Residential, school and hospital areas, as designed in local planning documents

A14 Major policy reforms

For example:

1. Deregistration of forestry reserves
2. Changes to zoning plans
3. Proposed introduction of exotic species

List B: List of projects for which an EIA may be required

- Agriculture and aquaculture schemes
- Drainage and irrigation projects
- Forestry and logging schemes
- Industrial projects
- Infrastructure projects
- Land development projects
- Mining projects
- Energy generation, transmission and use projects
- Tourism projects
- Waste treatment and disposal projects
- Water supply projects
- Health and population projects
- Projects in areas protected under legislation
- Projects in areas containing rare or endangered flora and fauna
- Projects in areas containing unique or outstanding scenery
- Projects in tribal habitats

Appendix 8-2

- The project will not substantially use a natural resource in a way that pre-empts the use or potential use of that resource for any other purpose.
- Potential residual impacts on the environment are likely to be minor, of little significance and easily mitigated.
- The type of project, its environmental impacts and measures for managing them are well understood in Malawi.
- Reliable means exist for ensuring that impact management measures can and will be adequately planned and implemented.
- The project will not displace significant numbers of people, families or communities.
- The project is not located in, and will not affect, any environmentally sensitive areas, such as:
  - National parks
  - Wetlands
  - Productive agricultural land
  - Important archaeological, historical and cultural sites
  - Areas protected under legislation
  - Areas containing rare or endangered flora or fauna
  - Areas containing unique or outstanding scenery
  - Mountains or developments on or near steep hill-slopes
  - Dry tropical forests (e.g. *Brachystegia* woodlands)
  - Developments near Lake Malawi or its beaches
  - Developments providing important resources for vulnerable groups, such as fishing communities along the lake shore
  - Developments near high population concentrations or industrial activities where further development could create significant environmental problems, and
  - Prime groundwater recharge areas or areas of importance for surface run-off of water.
- The project will not result in:
  - Policy initiatives that may affect the environment, such as changes in agricultural pricing subsidies or tobacco liberalisation
  - Major changes in land tenure, and/or
  - Changes in water use through irrigation, drainage promotion or dams, changes in fishing practices.
- The project will not cause:
  - An adverse socio-economic impact
  - Land degradation
  - Water pollution

  - Air pollution
  - Damage to wildlife and habitat
  - An adverse impact on the climate and hydrological cycle
  - Air pollution, or
  - The creation of by-products, residual or waste materials that require handling and disposal in a manner that is not regulated by existing authorities.
- The project will not cause significant public concern because of potential environmental changes. The following are guiding principles:
  - Is the impact positive, mainly benign or harmful?
  - What is the scale of the impact in terms of area affected, numbers of people or wildlife?
  - What is the intensity of the impact?
  - What will be the duration of the impact?
  - Will there be cumulative effects from the impact?
  - Are the effects politically controversial?
  - Have the main economic, ecological and social costs been quantified?
  - Will the impact vary by social group or gender?
  - Is there any international impact due to the proposed projects?
- The project will not necessitate further development activity that is likely to have a significant impact on the environment.

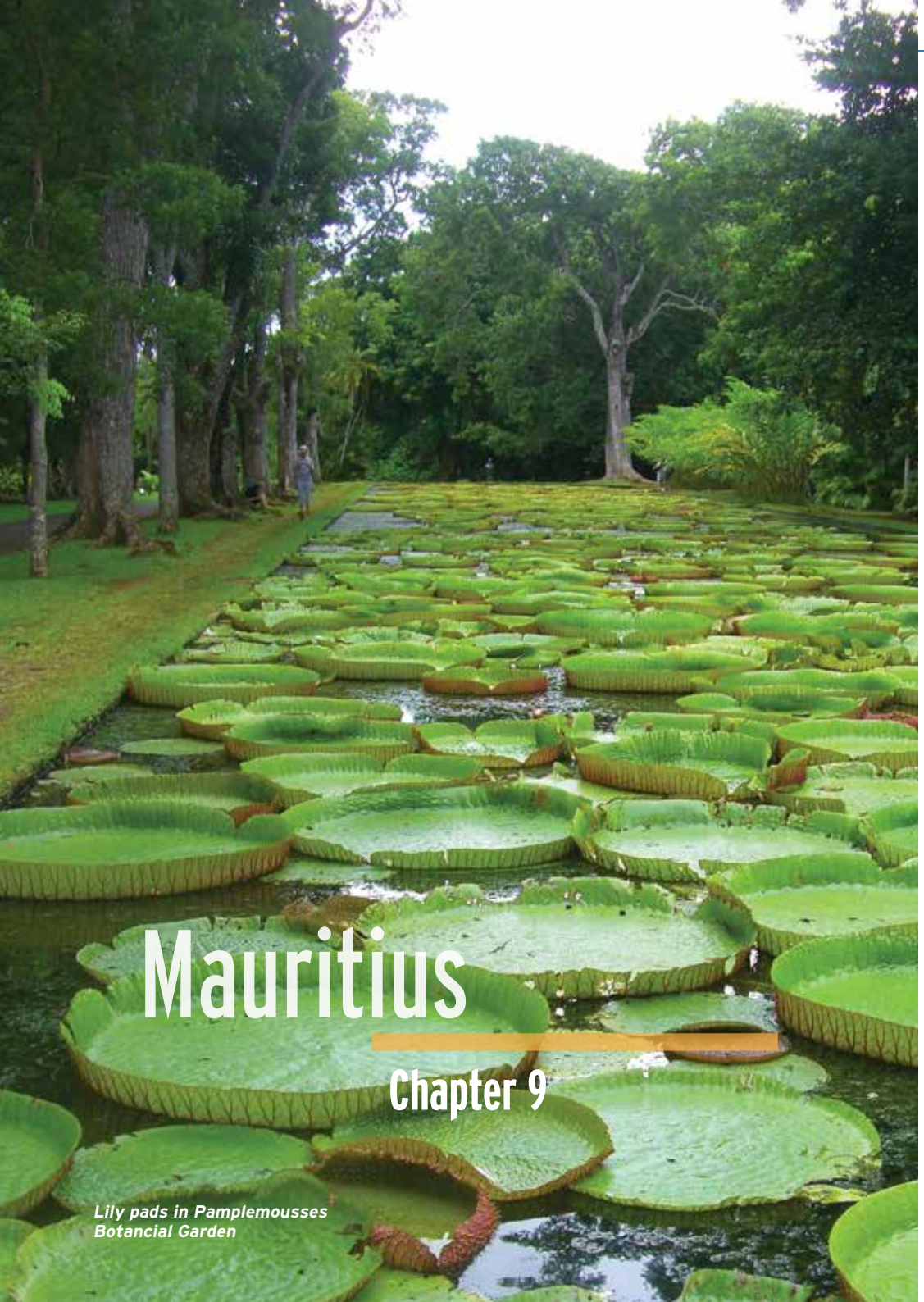
Acronyms

EAD	Environmental Affairs Department
EIA	environmental impact assessment
EMA	Environmental Management Act
ESCOM	Electricity Supply Commission of Malawi
TCE	Technical Committee on the Environment

Useful contacts

Department	Ministry	Telephone	Fax	Website
Environmental Affairs Department	Ministry of Natural Resources, Energy and Environment	+265 1 771111	+265 1 773379	www.malawi.gov.mw

Sunset, Lake Malawi



Mauritius

Chapter 9

Lily pads in Pamplemousses Botancial Garden

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Mauritius

9.1 National vision for environmental protection in Mauritius

Though the Constitution of Mauritius has no clause that specifically ensures the protection of the environment and promotes the concept of sustainable development, it does ensure the right to life and the right to health.[1] However, commitment to the environment and sustainable development has been expressed at the highest level. The Prime Minister, Sir Aneerood Jugnauth, reaffirmed this commitment in his foreword to the *State of the environment in Mauritius*,[2] prepared for the 1992 United Nations Conference on Environment and Development in Rio de Janeiro:

> *My government is committed: (a) to care for the natural environment; (b) to protect the health and welfare of Mauritians; and (c) to preserve the quality of our national and international commons … Mauritians, by their nature as well as because of their cultural heritage, have a greater appreciation of the linkages between environment, economic development, quality of life, social and cultural values, economic, commercial, business and governmental decision-making. It is for this purpose that we must work together to achieve sustainable development, and prepare for a prosperous future based on a healthy environment.*[3]

More recently, *Vision 2020: The national long-term perspective study*[4] further strengthened this commitment to the vision of sustainable development, by observing that:

> *Our physical environment sets the boundaries in which we live. In Mauritius its quality is high – but vulnerable. We need to protect and enhance it, both for ourselves and for generations to come.*[5]

A National Environment Action Plan for Mauritius (NEAP I)[6] was prepared for 1990–2000, followed by another, NEAP II,[7] which set out the national environment strategy for the period 2000–2010. This led to several measures, including strengthening the Ministry of the Environment; replacing the Environment Protection Act (EPA), No. 34 of 1991, with the EPA, No. 19 of 2002; and improving the enforcement of the EPA through the creation of the Environmental Police (Police de l'Environnement).[8]

NEAP III has not been developed, but a new National Environmental Policy was published in 2007 (see section 9.3.1).

9.2 Institutional and administrative structure for environmental impact assessment in Mauritius

9.2.1 Ministry of Environment and Sustainable Development

The Ministry of Environment was created in 1992, following the promulgation of the first EPA in 1991.[9] Recently, the Ministry changed its name to the Ministry of the Environment and Sustainable Development (MoE).

The following statutory bodies have been established within the MoE under the EPA of 2002 to ensure effective coordination and collaboration among the stakeholders (see Figure 9.1):

i. The National Environment Commission, a high-level inter-ministerial commission chaired by the Prime Minister, where environmental policy decisions are taken;
ii. The Environment Coordination Committee[10] (ECC) comprising high-level officials from various ministries and authorities, which advises the Minister on the protection and management of the environment (including national environmental standards, the process of application for the EIA Licence, and the review of the environmental impact assessment (EIA)) and enforces compliance with EIA legislation.[11]
iii. The Department of Environment, the technical arm of the Ministry, which is administered by a Director with powers to implement policy and enforce environmental laws;
iv. The Environmental Police (seconded police officers from the police force), which provides assistance to the Director on the enforcement of environmental laws;
v. The National Network for Sustainable Development, a forum for discussion comprising several stakeholders, including non-governmental organisations and civil society, and chaired by the Minister of Environment;

1 Boucherville Baissac, P, 2003. Country Chapter: Mauritius. In: SAIEA (Southern African Institute for Environmental Assessment), *EIA in southern Africa*. Windhoek: SAIEA, pp. 109-24.
2 Ministry of Environment and Quality of Life, 1991. *State of the environment in Mauritius*. Report presented at the United Nations Conference on the Environment and Development, Rio de Janeiro.
3 Boucherville Baissac, P, 2003.
4 Ministry of Economic Development and Regional Cooperation, 1997. *Vision 2020: The national long-term perspective study*. Port Louis: Government of Mauritius.
5 Boucherville Baissac, P, 2003.
6 World Bank, 1990. *National Environmental Action Plan for Mauritius (NEAP I)*. Unpublished report presented to the Government of Mauritius.
7 Government of Mauritius, 1999. *National environment strategies for the Republic of Mauritius: National Environmental Action Plan for the next decade (NEAP II)*. Port Louis: Government of Mauritius.
8 Boucherville Baissac, P, 2003.
9 UNEP-GEF (United Nations Environment Programme Global Environment Facility), 2006. *Nairobi Convention on the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region: Draft report on the legal, regulatory and institutional framework for Mauritius*. Unpublished report.
10 Members are the Permanent Secretary of the Ministry of Environment (Chairperson); the Director (Vice-Chairperson); the Permanent Secretaries, Executive Directors or their representatives from the enforcing agencies; the Environmental Liaison Officer; and other public officers or officers of statutory bodies designated by the Minister.
11 Boucherville Baissac, P, 2003.

vi. The Integrated Coastal Zone Management Committee, comprising the Director of Environment and representatives of ministries, departments, organisations such as the University of Mauritius, and six non-governmental organisations (its mandate is to make recommendations to the Minister on the management and protection of the coastal zone); and

vii. Various technical committees and the Technical Advisory Committee are set up as and when required, pursuant to specific sections of the EPA (2002), on matters pertaining to the scientific and technical aspects of environmental protection and management.

The institutional structure upon which the implementation of the environmental strategy is based enables the MoE to play its role as stimulator and coordinator, while the implementation is done by many other agencies, both governmental and non-governmental, according to the programmes contained in NEAP II.[12]

EIA Committee

The EIA process requires significant interministerial collaboration and information sharing and, therefore, provision is made in section 22 of the EPA for the establishment of an EIA Committee.[13] This Committee comprises the Director or his/her representatives (Chairperson), representatives of each of the ministries specified in the Sixth Schedule of the EPA Amendment Act (2008), one or more officers of the department designated by the director (one of whom shall be the secretary to the Committee), an officer of the Environmental Police, and the Chief Executive Officer of the relevant local authority in the jurisdiction of the project concerned.[14] The EIA Committee is required to examine applications for an EIA Licence referred to it after review by the Director and must make recommendations regarding the application under consideration (see Figure 9.2).

12 UNEP-GEF, 2006.

13 Members are the Permanent Secretary of the Ministry of Environment (Chairperson), the Director of the Department of Environment (no vote), the Permanent Secretaries or their representatives of the Ministries of Agriculture, Fisheries and Marine Resources, Health, Industry, Local Government, and Public Infrastructure, and representatives of the Town and Country Planning, Water Resources, and Wastewater Management authorities.

14 The Ministries are listed in the Sixth Schedule to the EPA and include: Agriculture, Fisheries and Marine Resources, Health, Industry, Local Government, Public Infrastructure, Town and Country Planning, Water Resources, and Wastewater.

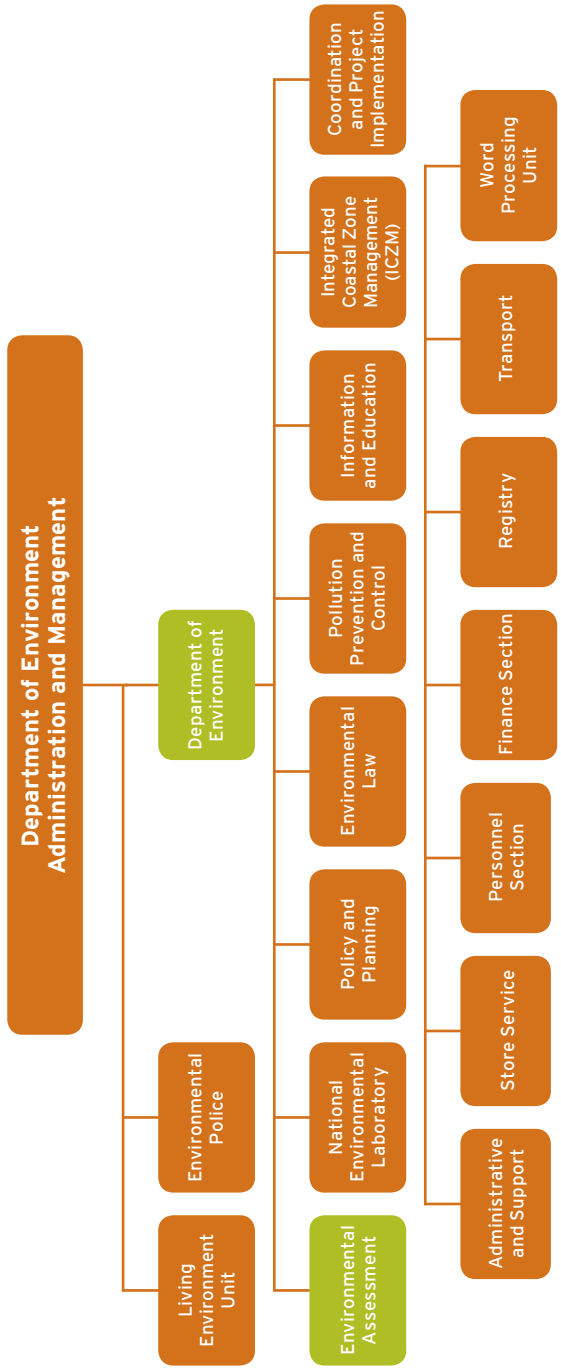


Figure 9.1: Organisational diagram of the Ministry of Environment and Sustainable Development

9.2.2 Intersectoral cooperation

Responsibility for the enforcement of the EPA is dispersed across a number of different ministries, which has the potential of being very effective in resolving the many institutional and enforcement issues that arise. However, the institutional and procedural mechanisms for ensuring coordination and consistency in enforcement of the EPA appear to be ineffective, and the institutions established by the EPA appear to lack high-level support and significant influence.[15]

The 2002 EPA also provides for other relevant ministries to enforce the law in relation to an environmental medium or pollutant for which those ministries already had responsibility under their respective legislation before the enactment of the EPA. The roles of the various enforcing agencies under the EPA are summarised in Table 9.1.[16]

Table 9.1: Division of responsibility for pollution control

Medium/pollutant	Enforcing agency
Noise, quality control of drinking water, and odour	Ministry of Health and Quality of Life
Inland waters and effluents	Ministry of Energy and Public Utilities
Solid wastes and hazardous wastes	Ministry of Local Government and Outer Islands
Pesticide residues	Ministry of Agro-Industry and Food Security (Agro-Industry Division)
Waters in the zone other than waters in the port	Ministry of Agro-Industry and Food Security (Fisheries Division)
Waters in the port	Port Master
Air and any of the above media or pollutants	Director of Environment (Ministry of Environment)

Under section 13 of the 2002 EPA, the enforcing agencies for the different environmental media or pollutants are as set out in Table 9.2.

15 Boucherville Baissac, P, 2003.
16 UNEP-GEF, 2006.

Table 9.2: Division of responsibility for environmental management

Environmental aspect	Enforcing agency
Land management	Ministry of Agro-Industry and Food Security (Land Use Division)
Water management	Ministry of Energy and Public Utilities (Water Resources Unit)
Air quality management	Department of Environment
Integrated coastal zone management	Department of Environment
Biodiversity	National Parks and Conservation Service
Integrated solid waste management	Ministry of Local Government and Outer Islands
Industrial management	Ministry of Industry, Commerce and Consumer Protection
Tourism management	Ministry of Tourism and Leisure
Agricultural management	Ministry of Agro-Industry and Food Security
Transport management	Ministry of Public Infrastructure, National Development Unit, Land Transport and Shipping

9.3 Policy and legal framework for EIA

9.3.1 Environmental policies

Until 2007, the policies relating to environmental management were contained in several documents, such as the National Environmental Policy of 1991, the National Environmental Strategy of 1999, the National Forestry Policy of 2006, and other sectoral action plans. These policy documents needed to be consolidated into a comprehensive policy statement in order to develop a common approach, instead of the various sectoral and cross-sectoral approaches to environmental management. The new policy was also required because sustainable development is recognised as the dominant development paradigm in the global context and sustainability is one of the challenges of the new Millennium.[17]

The National Environmental Policy of 2007 is anchored in the concept of sustainable development, incorporating the relevant recommendations of the 1992 Rio Earth Summit, the 2000 Millennium Development Summit, the 2002 Johannesburg World Summit and the 2005 Mauritius International Meeting on Small Island Developing States.[18]

The mission of the National Environmental Policy is to 'enable the Republic of Mauritius to attain the highest level of environmental quality as a means

17 MoE (Ministry of Environment) & NDU (National Development Unit), 2007. *National Environmental Policy.* Port Louis: Government of Mauritius.
18 MoE & NDU, 2007.

to enhance the quality of life of all citizens, preserve the natural environment and advance global competitiveness. This will be achieved through continued innovation and vibrant partnerships with all stakeholders.'[19]

The objectives of the policy are as follows:

i. *Conserve environmental resources:* To protect and conserve critical ecological systems and resources and invaluable natural and manmade heritage, which are essential for life support, livelihoods, economic growth and a broad conception of human wellbeing.

ii. *Promote intragenerational equity:* To ensure equitable access to environmental resources and quality for all sections of society, and in particular for poor communities, as well as taking into consideration gender equity.

iii. *Promote intergenerational equity:* To ensure judicious use of environmental resources to meet the needs and aspirations of present and future generations.

iv. *Integrate environmental concerns in economic and social development*: To integrate environmental concerns into policies, plans, programmes and projects for economic and social development.

v. *Achieve sustainable consumption and production patterns*: To adopt sustainable consumption and production patterns, ensure efficient use of energy and environmental resources, and achieve a recycling-based society. To make optimum use of renewable energy sources, such as bagasse, ethanol, solar and wind energy, biomass and agricultural wastes.

vi. *Achieve the 'garden island' concept:* To have a built-up environment characterised by good landscaping and architectural designs.

vii. *Enhance partnerships across society:* Cooperation and partnership across all sectors is crucial to meet sustainability challenges and to build an environmentally sustainable Mauritius for generations to come.

viii. *Develop environmental ethics in the citizen:* To inculcate environmental stewardship in society for the responsible care of the environment.

ix. *Promote policy dialogue*: To develop a policy dialogue culture at all levels with stakeholders in order to ensure the effective participation of citizens.

The policy is based on the following guiding principles, which underpin the different strategies and action plans in environmental management:

- Human beings at the centre of environmental sustainability;
- Environmental stewardship;
- Maintaining basic ecological integrity;
- Sustainability;
- Precautionary principle;
- Polluter pays principle;
- Use of appropriate technology;
- Preventive approach;
- Science and knowledge;
- Partnerships;
- Decentralisation;
- Environmental education and awareness;
- Environmental governance and accountability; and
- Global code of conduct.

The Government of Mauritius will develop an implementation plan that will detail the concrete actions to implement the policy. The plan will be in line with the government's programme and the priorities defined in NEAP II under the National Environmental Strategy.

As a result of the National Environmental Policy, NEAP II and the National Development Strategy, a number of policies, action plans and strategies have been developed to address a range of environmental issues. These are listed in Table 9.3.

19 MoE & NDU, 2007.

Table 9.3: Existing and emerging policies on the environment and land use

Policy, Strategy or Action Plan	Responsible agency	Status	Brief description
National Solid Waste Management Strategy	Ministry of Local Government	Adopted	The National Solid Waste Management Strategy aims at reducing the generation of waste and the environmental impacts associated with its disposal, as well as ensuring that the socio-economic development of the country, the health of its people, and the quality of its environmental resources are not affected by an uncontrolled and uncoordinated waste disposal system.
National Sewerage Master Plan, 1994	Ministry of Public Utilities	Adopted	The Plan provides a complete scheme for the development of the wastewater sector in Mauritius. On the completion of the Plan, most of the existing effluent will be disposed of to sewers, before treatment. Furthermore, standards for treated wastewater for use in irrigation are now in force.
National Climate Change Action Plan, 1998	Meteorological Services	Adopted	Programmes are ongoing to reduce the negative impacts of climate change, covering adverse impacts, measures for abatement and enhancing sinks for greenhouse gases, policy options for monitoring systems and for strategies to respond to the impact of climate change, and policy frameworks for implementing adaptation measures and response strategies.
National Biodiversity Strategy and Action Plan (2006–2015)	Ministry of Environment	Draft	This includes the following thematic sectors: forest biodiversity; terrestrial biodiversity; agro-biodiversity; freshwater, coastal and marine aquatic biodiversity; biotechnology; and sustainable ecotourism. Progress in the conservation of native flora has been made with support from non-governmental organisations, the government and foreign organisations. An Islets Biodiversity Management Plan was endorsed in 2001.
National Oil Spill Contingency Plan	Ministry of Environment	Adopted	Mauritius has strengthened its institutional and legislative framework to control oil pollution. In line with the provisions of the Environment Protection Act of 2002, Mauritius has prepared a contingency plan with the support of the Indian Ocean Commission in order to respond to oil spills. It includes a data directory and a coastal sensitivity atlas of Mauritius.
Mauritius Strategy, 1994	Government of Mauritius	Adopted	The Mauritius Strategy involves the adoption of a proactive strategy for the further implementation of the Programme of Action for the Sustainable Development of Small Island Developing States. The Mauritius Declaration focuses on the full commitment of all stakeholders to support the efforts of Small Island Developing States to implement sustainable strategies.

9.3.2 Environment Protection Act, 2002 (amended 2008)

The first EPA was promulgated in 1991. Part IV of this Act, which sets out formal procedures for EIA, only came into force in 1993. The 1991 EPA was repealed and replaced by the EPA, No. 19 of 2002, which aimed to consolidate and reinforce the legal framework for environmental management, particularly the proper implementation of government policies and enforcement provisions. The 2002 EPA provides for a licensing regime that requires either *preliminary environmental approval* or an *EIA Licence* for various activities, ranging from minor activities to strategic developments.[20]

The major provisions set out in the 2002 EPA include the following:[21]

- The concept of environmental stewardship (section 2);
- The requirement for EIAs for major scheduled undertakings;
- The establishment of standards and guidelines in respect of air, water, noise, odour, effluent, waste (including hazardous waste) and pesticide residues in raw food commodities;
- The protection of natural resources and biodiversity conservation;
- Greater transparency and public participation in the EIA mechanism (section 20);
- Streamlining of the EIA procedure (section 21);
- The duty to report to the Director of Environment and to take prompt action when accidental spills of a pollutant occur;
- The establishment of liabilities regarding the rehabilitation of environmental quality;
- The responsibilities of the various enforcing agencies in the enforcement of environmental laws;[22] and
- A revised list of undertakings requiring different levels of assessment.

20 Boucherville Baissac, P, 2003.
21 UNEP-GEF, 2006.
22 Under Government Notice 57/2005, other legislation has been declared environmental laws.

The term 'environment' is defined in the Act as meaning:

'a) land, air water or any combination of these media;
b) all living organisms; and
c) any built-up environment'.

This definition seems to focus on the biophysical environment only and does not appear to include human, societal or economic systems as part of the broader environment. This is at odds with the National Environmental Policy of 2007, which takes a far more holistic approach to the environment (section 9.3.1). Note that the required contents of an EIA report include the consideration of a much broader interpretation of the term, addressing impacts on the 'environment, people and society' (section 9.4.3).

Strategic environmental assessment

The concept of strategic environmental assessments was introduced in the Act, though it was only alluded to in Schedule 1. No further mention or definition is made in the body of the Act, leaving considerable room for interpretation. Schedule 1 of the Act lists activities that require a strategic environmental assessment. These include major plans and programmes, such as master plans, solid waste management plans, water management plans, and the National Physical Development Plan. However, there is a concern that strategic environmental assessments are not defined, nor is their role and function stated; further, no information is given on who should conduct them and no specifications are provided on their legal applications.[23]

The legislation makes no mention of transboundary impacts. As an island state, Mauritius shares no physical borders with any other country. It does, however, need to consider shared international waters and the impacts of its activities on these waters. The country is a signatory to the Nairobi Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region and, therefore, has international obligations regarding its impact on shared marine and coastal systems.

9.3.3 Regulations

There are no Regulations dealing with EIA at present. However, numerous Regulations exist for other aspects of environmental protection (see also Table 9.13):

- The Environment Protection (Standard for Effluent Discharge) Regulations, 2003, amended in 2004
- The Environment Protection (Effluent Discharge Permit) Regulations, 2003, amended in 2004
- The Environment Protection (Standard for Effluent Use in Irrigation) Regulations, 2003
- The Environment Protection (Standard for Effluent Discharged into the Ocean) Regulations, 2003
- Environment Protection (Drinking Water Standards) Regulations, 1996
- Groundwater Regulations, 1973
- Environment Protection (Standards for Air) Regulations, 1998
- Environment Protection (Hazardous Waste) Regulations, 2002
- Environment Protection (Standards for Hazardous Wastes) Regulations, 2001
- Waste Audit Regulations, (draft)
- Local Government (Dumping and Waste Carriers) Regulations, 1997
- Public Health Act (Disposal of Refuse) Regulations, 1984
- Environment Protection (Standards for Noise) Regulations, 1997
- Various regulations relating to fisheries, coral and wildlife protection
- Environment Protection (Collection, Storage, Treatment, Use and Disposal of Used Oil) Regulations, 2005
- Environment Protection (Control of Noise) Regulations, 2008.

9.3.4 Permits and licences

The Director of the Department of Environment issues EIA Licences, following the approval of the application by the Minister of Environment. This is done in consultation with the sectoral or stakeholder ministries, as well as with the local authorities concerned.

The local authorities are empowered under the Town and Country Planning Act of 1954 to grant development permits for the development of any land. Development permits are granted under the guidance of the National Physical Development Plan and Outline Schemes.[24] However, a developer also needs to secure a number of other permits (see Table 9.4), including an EIA Licence, for activities listed in Schedule 1 of the EPA (Appendices 9-1 and 9-2). This can result in the same information being considered and the same issues being assessed and adjudicated by different authorities.[25]

23 Boucherville Baissac, P, 2003.

24 Outline Schemes provide the local authorities with a guide for implementing the strategies and policies of the National Physical Development Plan – a strategic plan that defines the broad objectives, strategies and policies for the physical development of the country – at regional and local level.

25 Boucherville Baissac, P, 2003.

Table 9.4: Development permits and issuing authority

Type of permit	Issuing authority
EIA Licence	Ministry of Environment and Sustainable Development
Effluent Discharge Permit	Wastewater Management Authority
Development Permit	Local authority and/or Ministry of Public Infrastructure
Trade Licence	Local authority
Land Conversion Permit	Ministry of Agro-Industry and Food Security
Zoning/Rezoning Certificate	Town and Country Planning Board
Hotel Development Certificate	Ministry of Tourism and Leisure
Pleasure Craft Permit	Ministry of Tourism and Leisure

Although there is some duplication of procedure, the MoE believes that this process does not lead to conflict, since EIAs account for less than 1% of development permits granted annually. The processing of development permits, particularly for those projects that are not scheduled (see Appendices 9-1 and 9-2), is based on the Outline Schemes, site location and building plans, with no in-depth consideration of the environmental impacts associated with the development.

9.3.5 Offences and penalties

Section 85 of the EPA sets out the penalties for various offences that may be committed in terms of the Act. Those related to EIA and environmental pollution are summarised in Table 9.5.

Table 9.5: Offences and penalties

Offence	Penalty
General offences under the Act, other than those specified below	On first conviction, a fine not exceeding Rs50 000 and imprisonment for a term not exceeding two years. On second or subsequent conviction, a fine not exceeding Rs100 000 and imprisonment for a term not exceeding eight years.
Section 15: Unauthorised commencement of a listed undertaking Section 25: Failure to submit a fresh EIA when directed to do so Section 52: Unauthorised dumping in the coastal zone Section 56: Failure to comply with any decision, order, directive or notice handed down by the Environment Appeal Tribunal Section 71: Failure to comply with an Enforcement Notice Section 72: Failure to comply with a Prohibition Notice	On first conviction, a fine of between Rs50 000 and Rs100 000 and imprisonment for a term not exceeding two years. On a second or subsequent conviction, a fine between Rs100 000 and Rs500 000 and imprisonment for a term of six to 12 years.
Section 24: Failure to comply with a directive from the Minister with regard to: the method of execution of an undertaking; actions required to mitigate adverse effects of the undertaking on the environment, people and society; research and monitoring programmes; and environmental reporting Section 26: Failure to notify the Director of the transfer of an EIA Licence S84: Failure to conduct compliance monitoring as directed and to submit reports as required to the Director	On first conviction, a fine of between Rs10 000 and Rs25 000 and imprisonment for a term not exceeding four years. On a second or subsequent conviction, a fine between Rs50 000 and Rs250 000 and imprisonment for a term of six to eight years.
Schedule 9 (section 88(1)) offences: Discarding, placing, throwing, leaving behind or causing to be dropped any litter or waste generated from any trade, business, industry, office or any service provider in any:	a) Lake, reservoir, stream or watercourse or upon the bank of any of any of the same or beach or any part of sea: Rs10 000. b) Canal, drain or public place: Rs6 000.
(2) Discarding, placing, throwing, leaving behind or causing to be dropped any litter, waste or any other article generated other than from a trade, business, industry, office or any service provider in any:	a) Lake, reservoir, stream or watercourse or upon the bank of any of the same or beach or any part of sea: Rs3 000. b) Canal, drain or public place: Rs2 000.

9.3.6 Fees

The EPA does not prescribe fees for EIA application or review. However, designated establishments are required to pay a monthly 'environmental protection fee' as prescribed in section 66 of the EPA. The class of designated establishments and the applicable fees are set out in Schedule 5 of the Act and shown in Table 9.6.

Table 9.6: Designated establishment environment protection fees

Enterprise or activity	Fee payable	Date payable
1. Hotels	0.75% of monthly turnover	Within 20 days after the end of every month
2. Boarding houses of more than four bedrooms	0.75% of monthly turnover	Within 20 days after the end of every month
3. Enterprise engaged in stone crushing or in the manufacture or processing of aggregates, concrete blocks, precast units, coral sand, rock sand or basalt sand	0.75% of monthly turnover	Within 20 days after the end of every month

9.3.7 Guidelines

The Environmental Assessment Division of the Department of Environment (DoE) uses a general guideline for EIAs and sectoral checklists to review EIAs in the different sectors: land parcelling (subdivision), coastal development, housing, poultry and livestock rearing, industrial development, and so forth.[26]

The MoE has prepared general guidelines for the contents of the Preliminary Environmental Report (PER) and EIA reports, as well as for several sectors:[27]

- PER Guideline for Proposed Poultry Projects (enforced 2009)
- EIA Guidelines for Proposed Desalination Plants
- EIA Guidelines for Proposed Stone Crushing Plants
- EIA Guideline for Proposed Residential Subdivision Projects (under review)
- A Proponent's Guide to Environmental Impact Assessment (EIA)
- EIA Guideline for Proposed Coastal Hotel Projects (under review)
- A Guide for Proponents on the Preliminary Environmental Report 2009)
- EIA Guidelines for Fish Farming in the Sea
- Guideline on Public Participation (2010)
- Guideline on Alternatives (2010)
- Guideline on Involving Specialists (2010)

Schedule 1 of the 2002 EPA, which provides a list of undertakings requiring an EIA or PER, was reviewed and amended in October 2006 to exclude certain undertakings. For those activities, environmental guidelines have been prepared to assist proponents in including environmental safeguards in the implementation of their projects. The guidelines developed for these activities are listed in Appendix 9-3.

9.3.8 Environmental standards

Part VI of the EPA provides for the issuing of standards and guidelines relating to water, effluent, air, noise, waste, pesticides, odour, radioactive emissions, built-up environments and landscape.

Although the Director of the Department of Environment is given strong enforcement powers, environmental laws have only been promulgated in a few limited areas and, consequently, many harmful practices cannot be controlled. Also, some of the environmental standards are likely to be difficult to enforce because of overlapping responsibilities with other ministries and enforcing agencies.[28]

26 Boucherville Baissac, P, 2003.
27 www.gov.mu/portal/site/menvsite
28 Boucherville Baissac, P, 2003.

Table 9.7: Drinking water quality standards

Parameter	Standards
Microbial	
Escherichia coli	Must not be detectable in any 100 ml sample
Coliform organisms	0 in 95% of samples examined throughout the year. In the case of quantities of water needed for distribution throughout the year, when not less than 50 samples are examined for each period of 30 days, three in an occasional sample, but not in consecutive samples
Physico-chemical	6.5 - 8.5
pH	1 000 mg/l
Total dissolved solids	5 NTU
Turbidity	
Organoleptic	20 Pt-Co
Colour	not objectionable
Taste and odour	
Trace metals	0.2 mg/l
Aluminium	0.01 mg/l
Arsenic	0.003 mg/l
Cadmium	1 mg/l
Copper	0.01 mg/l
Lead	0.001 mg/l
Mercury	0.05 mg/l
Total chromium	3.0 mg/l
Zinc	0.02 mg/l
Nickel	
Anions	250 mg/l
Chloride	1.5 mg/l
Fluoride	250 mg/l
Sulphate	50 mg/l (as NO_3)
Nitrate	3 mg/l (as NO_2)
Nitrite	
Pesticides	0.03 microgram/l
Aldrin and dieldrin	2 microgram/l
DDT	2 microgram/l
Lindane	1 microgram/l
HCB	20 microgram/l
Methoxychlor	0.03 microgram/l
Heptachlor and heptachlor oxide	

NTU: nephelometric turbidity units
DDT: dichlorodiphenyltrichloroethane
HCB: hexachlorobenzene

Table 9.8: List of parameters for each industrial activity

Industrial activity	Parameters
Beverages industries	Temperature, pH, COD, BOD, TSS, sodium, zinc, detergents
Breweries and distilleries	Temperature, pH, COD, BOD, TSS, nitrate as N, selenium, zinc, oil and grease, detergents, ammonia as NH_4
Canning and food processing	Temperature, pH, COD, BOD_5, free chlorine, TSS, chloride, nitrate as N, TKN, sodium, oil and grease, total coliforms
Dairy processing	Temperature, pH, COD, BOD, TSS, selenium, oil and grease, detergents, ammonia as NH_4
Dye houses and washing units in the textile sector	Colour, temperature, pH, COD, BOD, reactive phosphorus, free chlorine, TSS, chloride, sulphate, sulphide, ammonia as NH_4, nitrate as N, detergents, cadmium, total chromium, cobalt, copper, molybdenum, sodium, zinc, oil and grease, total pesticides, total organic halides
Edible oil refining	Temperature, pH, COD, BOD, TSS, chloride, sodium, oil and grease, total organic halides, phenols, detergents
Industrial slaughtering	Temperature, pH, COD, BOD, TSS, chloride, nitrate as N, TKN, oil and grease, total coliforms, *Escherichia coli*
Laundry processes	Temperature, pH, COD, BOD_5, reactive phosphorus, free chlorine, TSS, nitrate as N, oil and grease, total organic halides, detergents
Livestock breeding	pH, COD, BOD_5, reactive phosphorus, TSS, nitrate as N, TKN, total coliforms, *Escherichia coli,* ammonia as NH_4.
Manufacture of chemical fertilisers	Temperature, pH, COD, BOD, reactive phosphorus, TSS, sulphate, oil and grease, ammonia as NH_4.
Manufacture of soaps and detergents and bulk storage of raw materials	Temperature, pH, COD, BOD5, reactive phosphorus, free chlorine, TSS, oil and grease, total organic halides, detergents, ammonia as NH_4
Mechanical workshop	pH, COD, BOD_5, oil and grease, total chromium, lead, manganese, zinc
Metal plating and galvanising	Temperature, pH, COD, free chlorine, TSS, chloride, sulphate, sulphide, nitrate as N, cyanide, cadmium, total chromium, cobalt, copper, iron, lead, nickel, zinc, oil and grease, total organic halides
Paint manufacturing	Colour, temperature, pH, COD, BOD_5, TSS, chloride, sulphate, sulphide, aluminium, cadmium, total chromium, cobalt, copper, lead, mercury, molybdenum, zinc, oil and grease, total organic halides
Tanning	Colour, temperature, pH, COD, BOD_5, reactive phosphorus, TSS, sulphate, sulphide, nitrate as nitrogen, cadmium, total chromium, mercury, oil and grease, total organic halides, total coliforms, *Escherichia coli,* ammonia as NH_4.
Thermal power plant	Temperature, pH, TSS, oil and grease, total chromium, copper, iron, zinc

COD: chemical oxygen demand
BOD: biological oxygen demand
TSS: total suspended solids
TKN: total Kjeldahl nitrogen

Table 9.9: Effluent discharge standards

Parameter	Unit	Maximum permissible limit	
		Land/ underground	Surface watercourses
Total coliforms	MPN per 100 ml	-	<400
Escherichia coli	MPN per 100 ml	<1 000	<200
Free chlorine	mg/l	-	0.5
Total suspended solids	mg/l	45	35
Reactive phosphorus	mg/l	10	1
Colour	-	Not objectionable	
Temperature	0C		40
pH	-		5 - 9
Chemical oxygen demand	mg/l		120
Biochemical oxygen demand	mg/l		40
Chloride	mg/l		750
Sulphate	mg/l		750
Sulphide	mg/l		0.002
Ammonia as NH_4	mg/l		1
Nitrate as N	mg/l		10
Total Kjeldahl nitrogen	mg/l		25
Nitrite as N	mg/l		1
Aluminium	mg/l		5
Arsenic	mg/l		0.1
Beryllium	mg/l		0.1

Table 9.9: Effluent discharge standards *(continued)*

Parameter	Unit	Maximum permissible limit	
		Land/ underground	Surface watercourses
Boron	mg/l	0.75	
Cadmium	mg/l	0.01	
Cobalt	mg/l	0.05	
Copper	mg/l	0.5	
Iron	mg/l	2.0	
Lead	mg/l	0.05	
Lithium	mg/l	2.5	
Manganese	mg/l	0.2	
Mercury	mg/l	0.005	
Molybdenum	mg/l	0.01	
Nickel	mg/l	0.1	
Selenium	mg/l	0.02	
Sodium	mg/l	200	
Total chromium	mg/l	0.05	
Vanadium	mg/l	0.1	
Zinc	mg/l	2	
Oil and grease	mg/l	10	
Total pesticides	mg/l	0.025	
Total organic halides	mg/l	1	
Cyanide (as CN-) or free cyanide	mg/l	0.1	
Phenols	mg/l	0.5	
Detergents (as LAS)	mg/l	15	

LAS: linear alkylate sulphonate

Note that any industry that existed before the promulgation of the Environment Protection (Standard for Effluent Discharge) Regulations of 2003 and that is within 200 m from the high-water mark of the sea must comply with the permissible limits set out in Schedule 3 of the Regulations.

Table 9.10: Atmospheric emission standards

Pollutant	Applicable to	Standard (maximum limit)
Smoke	All stationary fuel-burning sources	Ringelmann no. 2 or equivalent opacity (not to exceed more that five minutes in any period of an hour)
Particulates	(a) Any trade, industry, process, industrial plant or fuel-burning equipment (b) Any existing trade, industry process or industrial plant using bagasse as fuel	200 mg/m^3 400 mg/m^3
Sulphuric acid mist or sulphur trioxide	(a) Any trade, industry or process (other than combustion processes and plants for the manufacture of sulphuric acid) (b) Any trade, industry or process in which sulphuric acid is manufactured	120 mg/m^3 as sulphur trioxide 30 000 mg/m^3 as sulphur trioxide
Fluorine compounds	Any trade, industry or process in the operation of which fluorine, hydrofluoric acid or any inorganic fluorine compounds are emitted	100 mg/m^3 as hydrofluoric acid
Hydrogen chloride	Any trade, industry or process	200 mg/m^3 as hydrogen chloride
Chlorine	Any trade, industry or process	100 mg/m^3 as chlorine
Hydrogen sulphide	Any trade, industry or process	5 ppm as hydrogen sulphide gas
Nitric acid or oxides of nitrogen	Any trade, industry or process in which the manufacture of nitric acid is carried out	2 000 mg/m^3 as nitrogen dioxide
Nitric acid or oxides of nitrogen	Any trade, industry or process other than nitric acid plant	1 000 mg/m^3 as nitrogen dioxide
Carbon monoxide	Any trade, industry or process	1 000 mg/Bod as carbon monoxide

ppm: parts per million

Table 9.11: Ambient air quality standards

Ambient pollutant	Averaging time	Standards (ug/m³)	ppb or ppm
Total suspended solids	24-hour Annual average	150 50	- -
Dust (PM_{10})	24-hour	100	-
Sulphur dioxide	1-hour 24-hour Annual average	350 200 50	122 ppb 70 ppb 17 ppb
Nitrogen dioxide	24-hour	200	98 ppb
Carbon monoxide	1-hour 8-hour	25 000 10 000	20 ppm 8 ppm
Ozone	1-hour	100	47 ppb
Lead	3-month average	1.5	-

ppb: parts per billion
ppm: parts per million
PM_{10}: particulate matter less than 10 microns in size

Table 9.12: Noise exposure limits

Noise type	Hours	Limit (dB(A) Leq)
Industrial noise	07h00 - 21h00	60*
	21h00 - 07h00	55*
Neighbourhood noise	07h00 - 18h00	60
	18h00 - 21h00	55
	21h00 - 07h00	50
Power station noise in residential area	07h00 - 21h00	60
	21h00 - 07h00	55
Power station noise in any other area	At any time	70

*Apply a tonal character adjustment of +5 dB(A) to the measured value where the noise has a definite continuous note, such as a whine or hiss.

9.3.9 Certification of environmental consultants

There is no formal requirement for EIA consultants to be certified in Mauritius. However, the Director will specify in the Terms of Reference the nature of specialist studies to be undertaken and the level of expertise and qualifications of the consultant who will be signing off the EIA report. The EIA report must also contain the names, addresses and qualifications of the consultants who prepared the EIA.

9.4 EIA procedural framework in Mauritius

The EIA process, as legislated in the EPA, requires the following:

- At the inception stage, or at least three months before submitting the application for an EIA Licence, the project developer must inform the Director of the DoE by means of a brief document outlining the proposed undertaking, including the location, nature and scope of the project (see Figure 9.2).
- A copy of the project document is sent to all ministries likely to be involved in evaluating the project.
- The MoE arranges a joint site visit with the EIA Committee, the consultants and the project developers.
- The Director then imposes the Terms of Reference for the EIA report, the fields of study that must be covered, and the levels of expertise and the qualifications of the consultants to sign the report.
- The EIA report is submitted to the DoE and made available for public inspection.
- The DoE requests any additional information from the developer, if necessary.
- The Director may solicit comments from other government departments, enforcing agencies or non-governmental organisations.
- The Director of Environment reviews the application and makes a recommendation to the EIA Committee, which reviews the documents and advises the Minister whether to grant an EIA Licence and what conditions to attach.[29]

Once the Minister of Environment receives all the relevant information from the EIA Committee, s/he can take the decision to grant the EIA Licence. The notice of the decision has to be published in the Government Gazette and in the daily newspapers. If however, the Minister is unable to reach a decision, the EIA report can be referred to the Technical Advisory Committee (section 23(3) of the EPA) for comment.

If the Director is of the opinion that there is insufficient local expertise or technical knowledge to review the EIA report adequately, consideration can be given to using an external reviewer to assist with the review process.

The detailed steps of the process are described in the following subsections, and the process is shown schematically in Figure 9.2.

29 Boucherville Baissac, P, 2003.

9.4.1 Screening

The Act identifies (in Part A of Schedule 1) categories of minor activities – for example, common undertakings such as poultry rearing and land parcelling (subdivision) – that require a PER, which is a simplified, short form of an EIA. The list of activities in Part A was revised and came into effect from 1 October 2006; it is presented in Appendix 9-1 of this Handbook.

Major undertakings, such as coastal hotels, marinas and jetties, which may have a significant impact on the environment (specified in Part B of Schedule 1), require a full impact assessment and an EIA Licence. The list of activities in Part B is presented in Appendix 9-2 of this Handbook.

All other activities and projects not on the list are exempt, though the Minister may request the person carrying out or proposing to carry out a project or activity to submit a PER or an application for an EIA Licence.[30] The MoE has, in fact, developed environmental guidelines for a variety of common, small undertakings, listed in Appendix 9-3.

Only new activities are subject to EIA and existing activities continue to operate without being subject to equivalent controls. Also, the list of activities subject to EIA is not comprehensive enough to cover all potentially environmentally harmful activities. However, the Director of the DoE may serve a prohibition notice on any enterprise or activity if it presents a serious pollution risk, irrespective of whether it has a licence or permit issued under any environmental law or any other enactment. In such cases, the Minister may issue a directive to the operator of the enterprise to submit an EIA. This may also occur if there have been substantial changes to the enterprise or in the manner in which it is being operated.

9.4.2 Preliminary Environmental Report

The PER is a rapid procedure provided for Part A projects by the Act, based on automatic project approval; this shifts the burden of rejecting a project onto the Ministry. If no response on a project proposal is forthcoming from the Ministry within *45 days* of submission, it is deemed that the proposal has been approved. However, the report may only be approved under conditions that the Minister of Environment deems appropriate, and s/he may request a full EIA to be carried out.[31]

The PER must contain a description of the undertaking, including information on:

a) Its location and its surroundings;
b) Its process, design and size;
c) Any data or information necessary to identify and assess the likely effects of the undertaking on the environment, people and society;
d) The measures that the proponent proposes to take to avoid, reduce and, where possible, remedy any significant effect of the undertaking on the environment; and
e) Such other aspects of the undertaking as the Director may require.[32]

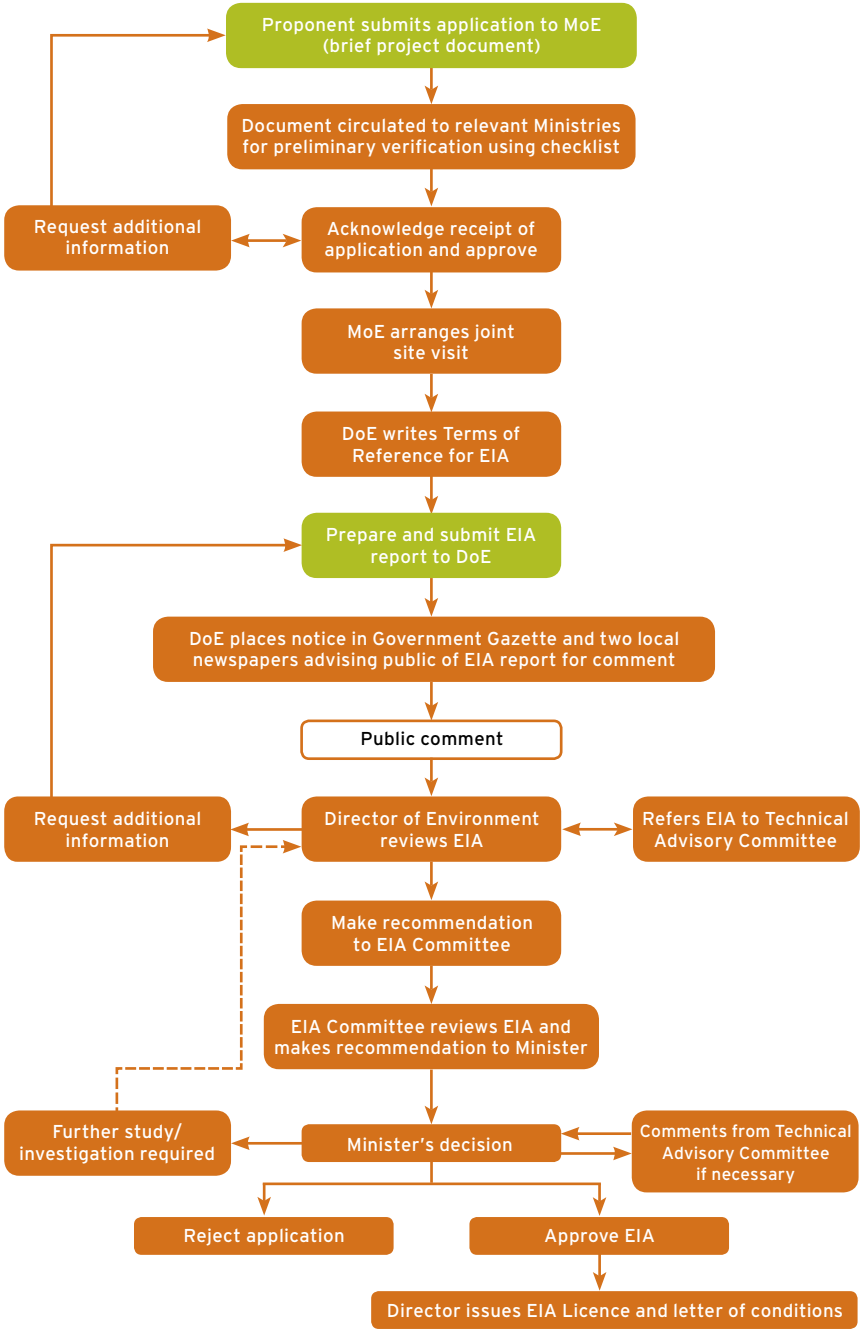
The PER must be submitted to the DoE together with:

a) A site plan indicating the location of the undertaking;
b) A non-technical summary, where the report is prepared by a consultant; and
c) A certificate issued by a notary expressing his/her opinion as to the ownership of the land on which the undertaking is to be executed.[33]

30 Boucherville Baissac, P, 2003.
31 Boucherville Baissac, P, 2003.

32 Section 16(2) of EPA.
33 Section 16(3) of EPA.

Figure 9.2: EIA process flow diagram



9.4.3 Environmental impact assessment

At least three months before submitting an application for an EIA Licence, a proponent must furnish the Director with an outline of the proposed undertaking, including its location, nature and scope. On the basis of this outline, the Director will develop Terms of Reference for the EIA report, including a list of specialist studies to be conducted and the levels of expertise and the qualifications of the lead consultants.[34]

Section 18(2) of the EPA provides guidelines on the contents of an EIA report, and is summarised below:

- The name and address of the proponent;
- The ownership of the undertaking and of the land on which it is being conducted;
- The name, address and qualifications of the consultant who prepared the EIA;
- The precise location and surroundings of the undertaking, the zoning of the site, and the number of similar undertakings in the area;
- The principle, concept and purpose of the undertaking;
- The direct or indirect effects that the undertaking is likely to have on the environment;
- An assessment of the social, economic and cultural effects that the undertaking is likely to have on people and society;
- Any actions or measures that the proponent proposes to take to avoid, prevent, change, mitigate or remedy, as far as possible, the likely effects of the undertaking on the environment;
- An assessment of the inevitable adverse environmental effects that the undertaking is likely to have on the environment, people and society, where it is implemented in the manner proposed by the proponent;
- An accurate assessment of the irreversible and irretrievable commitment of resources that will be involved in the undertaking, where it is implemented in the manner proposed by the proponent;
- Any alternative manner or process by which the undertaking may be carried out so as to cause less harm to the environment;
- An environmental monitoring plan;
- Information pertaining to the decommissioning of the project at the end of its life and associated impacts, proposed measures to return the site as far as possible to its former state, or rehabilitation measures;
- In the case of a new infrastructure proposal, an environmental management plan to be implemented during the construction phase; and

34 Section 15 (3) and 15 (4) of EPA.

- Such other information as may be necessary for a proper assessment and review of the potential impact of the undertaking on the environment, people and society.

Section 19(1)(b) of the EPA requires the proponent or the EIA consultant to include all relevant particulars relating to the public consultation process in the EIA report.

Once the EIA report has been completed, the proponent must submit 15 hard copies and one electronic copy of the EIA report to the Director. The reports have to be signed by the developer and all the principal consultants who prepared the report (section 19(1)). The report also has to be accompanied by:

- Proof of ownership of the undertaking;
- A site plan signed by a land surveyor;
- An executive summary of the report; and
- A certificate issued by a notary regarding the ownership of the land.[35]

The Act also clarifies the position regarding the provision for exempt activities. This provision (section 17(1)) allows the Minister to request a proponent to submit an EIA in respect of any activity that, although unlisted, is likely to have a major impact on the environment. Finally, the Act stipulates that any EIA Licence will lapse if the project is not implemented within two years from the date of issue.

Once the EIA has been submitted, it is open for public inspection at the DoE and at the municipal offices for the area in which the proposed development will take place. The Director places notices to this effect in two issues of the Government Gazette and two daily newspapers, with an interval of seven days between each publication. The notice must include a summary description of the project, the project location, the location where the EIA report may be inspected, and the closing date for public comment. The law allows a period of *28 days* from the date of first publication for public comment, but the Director can extend this time if necessary (section 20(4)). The Director may also publish all or part of the EIA report on the Internet.

9.4.4 Review and approval of the EIA report

Once the Director receives the EIA report, s/he must review it and send it together with any comments to the EIA Committee no later than *42 days* after the expiry date for public comments. The Director may also make use of any of the following:

- Request observations and comments on the EIA in writing from any public department, enforcing agency or non-governmental organisation.
- Set up a technical committee to advise him/her on any aspect of the undertaking and EIA.
- Ask the proponent to carry out further studies or submit additional information to ensure that the EIA is as comprehensive as possible (see Figure 9.2).

Once the Director has received all comments, s/he will pass the EIA Licence application and all related documentation to the EIA Committee, which will examine the application and make recommendations to the Minister within *14 days* of receiving the documentation from the Director.

The Minister will make a decision on the application within *14 days* of the receipt of the recommendations from the EIA Committee. The Minister may then do one of the following:

- Approve the issuing of an EIA Licence with terms and conditions as required.
- Reject the application.
- Refer the application to a Technical Advisory Committee for comments within *14 days* (Figure 9.2).

In considering the approval of an EIA, the Minister and his/her advisors will take into account:

a) The environmental factors considered in the EIA;
b) The measures proposed to avoid or minimise adverse effects on the environment, people or society;
c) The alternatives proposed in the EIA; and
d) Other matters that may be relevant in weighing the significance or insignificance of the potential environmental impact of the undertaking.

9.4.5 Monitoring and enforcement

The lack of enforcement of environmental laws has historically been a problem. This has been due to a shortage of staff, as well as a lack of awareness and a sense of urgency on the part of the enforcing institutions. To remedy this situation, the MoE, in collaboration with the Mauritius Police Force, created the Environmental Police on 1 December 2000. This unit comprises 15–18 police officers under an inspector. Its mission is the protection of the environment through enforcing environment legislation and assisting the MoE and other enforcing agencies in their work.

35 Section 18(1)(c) of EPA.

In addition, the post-EIA Monitoring Unit follows up on compliance with the conditions under which the EIA Certificate is issued.[36]

9.4.6 Appeals

In terms of section 54(2) of the EPA, an appeal can be lodged with the Environment Appeal Tribunal against any of the Minister's decisions relating to the granting or refusal of an EIA Licence, conditions relating to these, and the enforcement of PERs and EIAs. The appeal should be lodged within *30 days* of the decision being published in the Government Gazette. The Tribunal consists of a Chairman – a barrister at law of not less than ten years' standing and appointed by the Public Service Commission – as well as other members appointed by the Minister, with at least three years' experience in a field related to the protection and management of the environment. The decision taken by the Tribunal will be communicated to the Minister. In addition, if any objection on a point of law does exist in the judgment of the Tribunal, an appeal can be made through the Supreme Court.[37]

9.5 Other relevant environmental legislation in Mauritius

Environmental issues cut across a variety of sectors, and numerous pieces of legislation in Mauritius have a bearing on the environment and should be considered in EIA decision-making. The sectors, titles of the legislative instruments, the responsible agency and the purpose of the legislation are summarised in Table 9.13.

36 Boucherville Baissac, P, 2003.
37 Boucherville Baissac, P, 2003.

Table 9.13: Other potentially applicable sectoral requirements

Information required	Responsible agency	Title and date of document	Purpose
Water resources (use of)	Ministry of Housing and Lands	Water Supply for Domestic Purposes Regulation, 1992, of Act No. 4 of 1985	
	MoE	Environment Protection (Drinking Water Standards) Regulations, Government Notice No. 55 of 1996	The Regulations relate to drinking water quality.
		Groundwater Act, 1982, and Regulations, 1973	
Effluent disposal	Ministry of Energy and Public Utilities/ Waste Water Management Authority	Wastewater Management Authority Act, 2000	The Act sets up the Wastewater Management Authority.
	MoE	Various Regulations (see section 9.3.3)	Several Regulations have been made about the discharge of effluent into inland water bodies and the ocean.
		Rivers and Canals Act, 1863	The Act prohibits the pollution of rivers, streams and canals. It is outdated and needs revision.
		Marine Pollution Bill, 2004	The Bill incorporates the obligations under the International Convention for the Prevention of Pollution from Ships; the International Convention on Civil Liability for Oil Pollution; the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage; the International Convention on Oil Pollution Preparedness, Response and Co-operation; and the United Nations Convention on the Law of the Sea. The final draft of the Bill is at the Attorney General's office for vetting.

Table 9.13: Other potentially applicable sectoral requirements *(continued)*

Information required	Responsible agency	Title and date of document	Purpose
Noise	Ministry of Local Government and Outer Islands	Noise Prevention Act, 1988	The Act sets out provisions for noise control.
	MoE	Environment Protection (Standards for Noise) Regulations, 1997	The Regulations relate to noise emissions and standards.
Waste	MoE	Waste Audit Regulations (draft)	The Regulations will cover waste inventories and the development and implementation of environmental management plans. It will also establish design criteria for waste disposal sites.
	Ministry of Health and Quality of Life	Public Health Act (Disposal of Refuse) Regulations, 1984	The Act covers the disposal of refuse and hazardous waste.
	Ministry of Local Government and Outer Islands or local authorities	Local Government Act, 1989, and associated Regulations, 1997	These relate to solid waste disposal, other than hazardous waste.
	MoE	Hazardous Waste, Regulations, 2002	The Regulations relate to hazardous waste not covered by the Pesticides Control Act of 1925.
Air quality	Ministry of Health and Quality of Life and the Director of Environment	Environment Protection (Standards for Air) Regulations, 1998	The Regulations set up national environmental standards for the emission of pollutants into the atmosphere. All factories in Mauritius have to comply with the standards.
Radiation		Radiation Protection Act, 1992	The Act controls radiation sources, radioactive substances, their importation into the country, and the storage of radioactive materials.
Planning and zoning	Local authority and/ or Ministry of Public Infrastructure, Land Transport and Shipping	National Physical Development Plan and Outline Schemes[38]	A Development Permit is required in terms of the National Physical Development Plan. Development is defined as building operations, change in the use of land or buildings, or the subdivision of land.
	Town and Country Planning Board (of the Ministry of Housing and Lands)	Town and Country Planning Act, No. 6 of 1954	A Zoning/Rezoning Certificate is required in terms of the Act.
Conservation	Ministry of Agriculture, Food Technology and Natural Resources	Wildlife and National Parks Act, No. 13 of 1993	The Act contains regulations for the protection of Mauritian native fauna and flora and the creation of national parks.
		Wildlife Regulations, 1998	Permits are required to sell, export, import and exhibit any listed wildlife species.
	Ministry of Fisheries and Marine Resources	Fisheries and Marine Resources Act, 1999, as amended by Act No. 21 of 2002 and Act No. 10 of 2005	This Act gives power to the Minister to prescribe measures for the protection and management of fisheries and marine resources, including fishing by certain means, in certain areas, and during certain times of the year.
		Fisheries Regulations	Regulations have been made relating to gill net prohibition, reserved access on Rodrigues, toxic fish, vessel monitoring, etc.
	Ministry of Environment and Sustainable Development	Maritime Zone Act, 2005	The Act defines the maritime zone and Mauritian rights to marine resources.
	National Parks and Conservation Service	Wetland Bill	The Bill provides for the application of the principles of the Ramsar Convention, the wise use of wetlands, and the prohibition of activities that may be detrimental to wetlands. It also makes provision for lists of threatened wetlands and catchments.

38 As noted, Outline Schemes provide the local authorities with a guide for implementing the strategies and policies of the National Physical Development Plan – a strategic plan that defines the broad objectives, strategies and policies for the physical development of the country – at regional and local level.

Table 9.13: Other potentially applicable sectoral requirements *(continued)*

Information required	Responsible agency	Title and date of document	Purpose
Agricultural and land	Ministry of Agriculture, Food Technology and Natural Resources	Pesticides Control Act, 1972 (repealed, see below) and Pesticides Control (Restricted Pesticides) Regulations, 1982	
		Dangerous Chemicals Control Act, 2004 (repeals Pesticides Control Act, 1972)	The Act controls and regulates dangerous chemicals and emissions, sets up a regulatory board, and establishes enforcing agencies.
		Chemical Fertilisers Control Act of 1981	The Act controls the sale, use and composition of fertilisers.
Tourism	Ministry of Tourism and Leisure	Tourism Act, 2004	The objective of the Act is to optimise the social, economic and environmental benefits of tourism in Mauritius.

Appendix 9-1

List of undertakings requiring a Preliminary Environmental Report

As per Schedule 1, section 15(2)

Part A

1. Construction of helipads
2. Coral crushing and processing
3. Creation of bathing areas by mechanical means
4. Depot for 50 buses or more
5. Discotheque and nightclub
6. Food processing industry, excluding small and medium enterprises
7. Foundry, smelting plant or metallurgical work
8. Galvanising industry
9. Industrial-scale laundry and dry-cleaning within 1 km from high-water mark
10. Land reclamation and backfilling
11. Manufacture of animal feed
12. Manufacture of ceramics
13. Manufacture of paint, pigment and varnish
14. Manufacture of photographic films
15. Manufacture of plastics and plastic products
16. Manufacture of rubber products
17. Mechanical removal of marine flora, such as sea grasses and marine algae
18. Parcelling out of land above 5 ha for agricultural purposes involving infrastructural work
19. Quarantine station for livestock
20. Ready-mix concrete plant
21. Rearing of livestock, including cattle, goats, pigs and sheep
22. Rearing of poultry above 5000 heads
23. Recycling plant
24. Rendering plant
25. Sawmill
26. Slaughter house
27. Textile industry associated with washing, bleaching and printing
28. Timber treatment plant

Appendix 9-2

List of undertakings requiring an EIA

As per Schedule 1, section 15(2)

Part B

1. Asphalt plant
2. Assembly of motor vehicles
3. Block-making plant manufacturing above 10 000 blocks per day
4. Bulk processing, storage and handling of petroleum products, liquefied gas, coal and petrochemical products
5. Clinic and hospital, including animal hospital
6. Construction of airports and runways
7. Construction of breakwaters, groins, jetties, revetments and seawalls
8. Construction of dams and dykes
9. Construction of marinas
10. Conversion of forest land to any other land use
11. Creation of and/or development on lagoons
12. Desalination plant
13. Distillery
14. Dye house
15. Fishing port
16. Golf course
17. Harbour dredging operation, construction and development
18. Highway and mass transit system
19. Hotel and integrated resort scheme, including extension, with first boundary within 1 km from high-water mark
20. Housing project and apartments above 50 units within 1 km from high-water mark
21. Incineration of municipal solid waste, quarantine waste, medical and clinical wastes
22. Industrial manufacture of beer, wine and spirit
23. Lagoon dredging and reprofiling of sea beds
24. Land clearing and development, including installation of high-tension lines in environmentally sensitive areas, such as water catchment areas, waterlogged areas, wetlands, mountain slopes and islets
25. Landfill
26. Manufacture of batteries
27. Manufacture of dangerous chemicals, chemical fertilisers and pesticides
28. Manufacture of lime
29. Manufacture and packing of cement
30. Manufacture of pharmaceutical products
31. Modification of existing coastline such as beach reprofiling, coastal protection works and removal of basaltic and beach rock
32. Municipal wastewater treatment plant
33. Offshore sand mining
34. Parcelling out of land above 5 ha:
    a) Other than by way of division in kind among heirs;
    b) To be allocated to persons other than such persons as may be approved by the Minister responsible for the subject of agriculture and who are:
        i. Occupiers of housing units forming part of sugar estate camps owned by sugar millers or sugarcane planters;
        ii. Occupiers of housing units forming part of tea estate camps;
        iii. Workers affected by the closure of a sugar factory; or
        iv. Workers opting for the Voluntary Retirement Scheme
35. Petroleum refinery
37. Power generation plants
38. Pulp and paper manufacture
39. Rearing of monkeys
40. Rock quarrying
41. Sea outfall
42. Shipyard and dry dock
43. Stone crushing plant
44. Sugar factory or refinery
45. Tannery and leather finishing
46. Transfer station for solid waste
47. Used or waste oil treatment and disposal

Appendix 9-3

List of environmental guidelines for non-scheduled undertakings under the EPA, 2002

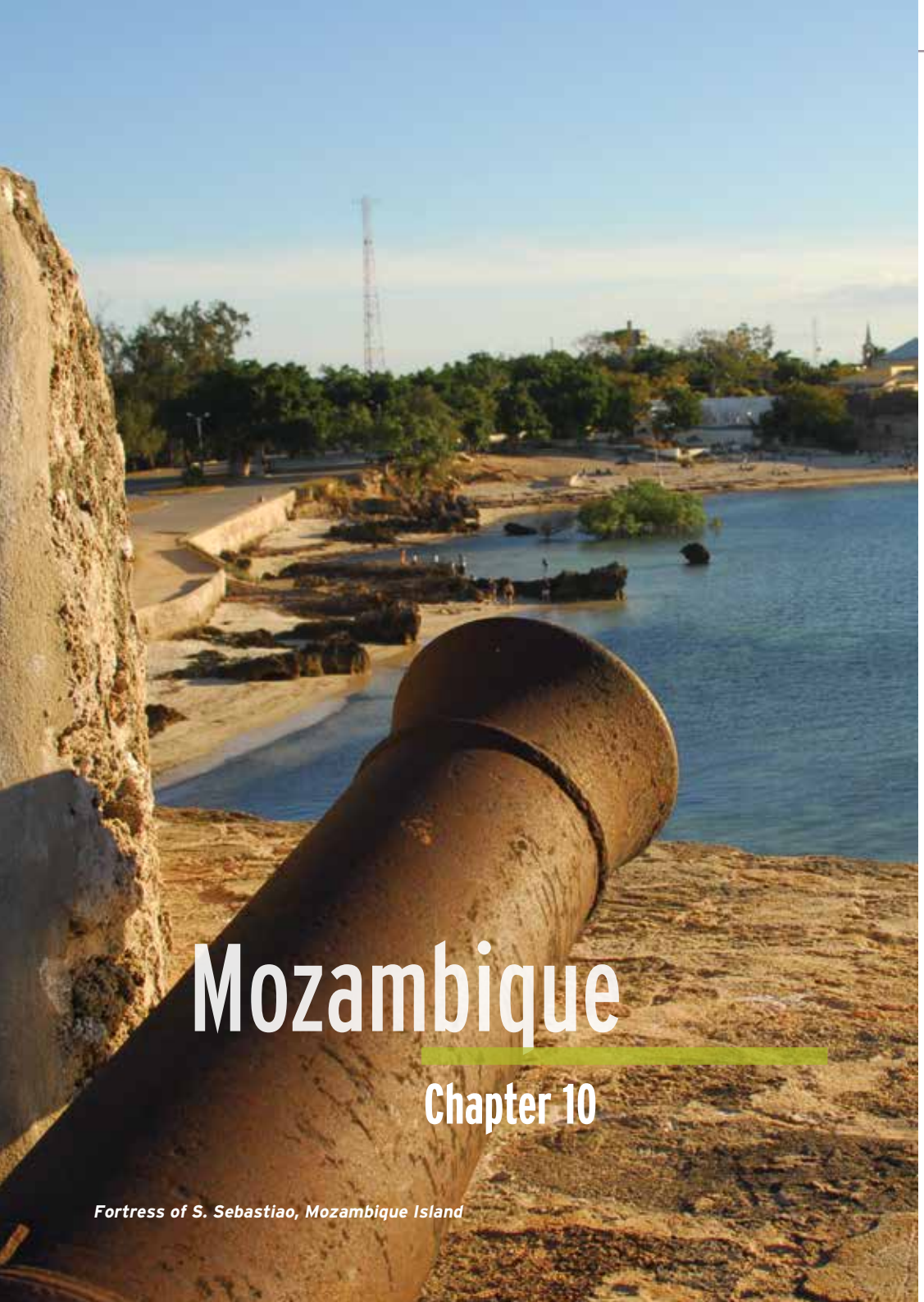
1. Poultry rearing below 5000 heads
2. Assembly of batteries
3. Cold rooms and refrigeration plants
4. Bus depot of less than 50 buses
5. Bakery
6. Demolition of buildings
7. Multi-purpose hall, including wedding hall
8. Filling station
9. Inland hotel
10. Food processing for small and medium enterprises
11. Food canning industry
12. Mirror manufacture
13. Processing, bottling and canning of beverages, syrup and water
14. Pesticides formulation and packing
15. Refining and processing of edible oils and fats
16. Wastewater treatment plant
17. Retreading of tyres
18. Traffic centre
19. Residential care home
20. Manufacture of polyurethane foam
21. Nautical centre
22. Block-making plant manufacturing up to 10 000 blocks per day
23. Undersea walk
24. Electroplating
25. Bulk storage of pesticides and dangerous chemicals
26. Manufacture of soap and detergents
27. Timber warehousing
28. Decommissioning of wastewater treatment plant

Acronyms

DoE	Department of Environment
EIA	environmental impact assessment
EPA	Environment Protection Act
MoE	Ministry of Environment and Sustainable Development
NEAP	National Environment Action Plan
PER	Preliminary Environmental Report

Useful contacts

Department	Ministry	Telephone	Fax	Website
Department of Environment	Ministry of Environment and Sustainable Environment	+230 203 6200	+230 211 9524	www.gov.mu/portal/site/menvsite



Mozambique

Chapter 10

Fortress of S. Sebastiao, Mozambique Island

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Mozambique

10.1 Constitutional requirements for environmental protection in Mozambique

The Constitution of the Republic of Mozambique (2004) addresses matters relating to the environment and quality of life in Articles 45, 81, 90, 98, 102 and 117. Article 90, which is part of Chapter V (Economic, social and cultural rights and duties) of Title III (Fundamental rights, duties and liberties), gives the people of Mozambique the right to live in a balanced environment. It commits 'the State and local authorities, in collaboration with other appropriate partners, to adopt policies for the protection of the environment and care for the rational utilisation of all natural resources'.[1]

Article 98 deals with state property and the public domain, and establishes that 'natural resources situated in the soil and in the subsoil, in internal waters, in the sea, on the continental shelf, and in the exclusive economic zone are the property of the State'. In paragraph 2 of the same Article, items constituting the public domain of the state are listed, some of them being (a) the maritime zone; (d) zones of nature protection; and (e) water and naturally occurring minerals.

Article 102 specifies that the state shall determine how natural resources may be exploited so that both human wellbeing and national interests are safeguarded. Article 117 of the Constitution goes further by stipulating that the state is responsible for promoting initiatives that ensure ecological balance and the conservation of the environment for improving the quality of life of the citizens (paragraph 1). According to paragraph two of this article, the State shall adopt policies aiming at:

a) preventing and controlling pollution and erosion;
b) integrate the environment objectives in sector policies;
c) promoting the integration of environmental values in educational policies and programmes;
d) ensuring the rational utilisation of natural resources within their capacity to regenerate and bearing mind the rights of future generations.

Articles 45(f) and 81(2b) place an obligation on communities to protect their environment and allow for class action relating to environmental issues.

As a developing country, and following a long period of armed conflict (1980–1992), Mozambique's vision is focused primarily on poverty reduction and rapid economic growth on a sustainable, long-term basis.[2] The adoption of sound policies and laws relating to land, the environment, forestry, wildlife and coastal resources, for example, has provided a solid basis for improving environmental planning and natural resource management. One such document is the Environmental Strategy for Sustainable Development, adopted by the Council of Ministers in July 2007. The fundamental challenge remains to translate these good intentions into practice. Elevating the political status of the relevant government agencies and enhancing their capacity are central to the effective implementation of these provisions. The systematic development of legislation and regulations on environmental impact assessment (EIA) and the country's improving capacity to implement the EIA process are significant steps towards meeting this challenge.

10.2 Institutional and administrative structure

The EIA process in Mozambique involves three main players: the authorities, the proponent of a project or a donor (as the case may be), and the EIA team – which can comprise national and foreign companies, universities, research institutions and individuals. Donor-funded projects are typically large in scale, and the service contract often includes conditions that require the proponent(s) to adhere to donor-specific EIA protocols (e.g. World Bank, the United States Agency for International Development (USAID) and the Department for International Development (DFID)), in addition to complying with Mozambique's EIA Regulations.

10.2.1 Ministry for the Coordination of Environmental Action

Created in 1995, the Ministry for the Coordination of Environmental Action (Ministério para a Coordenação da Acção Ambiental (MICOA))[3] has two broad domains of responsibility:

1. Implementing the National Environmental Management Plan and associated environmental policy and legislation; and
2. Coordinating with other ministries on environmental matters to integrate environmental aspects into their projects, programmes and policies.

MICOA is organised into the following five National Directorates (see Figure 10.1):

- Environmental Impact Assessment;
- Management of Natural Resources;
- Land Planning;
- Promotion of Environmental Awareness; and
- Planning.

1 Republic of Mozambique, 2000. *Programa do Governo para 2000-2004*. Government Bulletin No. 12. Maputo: Government of Mozambique.

2 Republic of Mozambique, 2000.

3 GTZ (Deutsche Gesellschaft für Technische Zusammenarbeit), 2007. *Legal framework for environmental licensing in Mozambique*. Berlin: GTZ.

MICOA is in charge of regulating EIAs, which involves approving the Terms of Reference for EIAs, reviewing completed EIAs, and implementing an audit process. During MICOA's first mandate (1995–2000), its EIA responsibilities and capacities evolved from scratch, with staff numbers gradually expanding to a contingent of five or six professionals housed within a department dedicated to EIA matters. This period was characterised by high staff turnover, including the Head of Department and, although generally motivated, the EIA Department lacked the human resources to implement EIA procedures efficiently.

In December 1999, the EIA Department was upgraded to the National Directorate of Environmental Impact Assessment (Direção Nacional de Avaliação de Impacto Ambiental), effective with MICOA's second mandate, which started in early 2000. The institutional and political importance of EIA is increasingly recognised both within and beyond MICOA. However, although the legal framework for environmental management in Mozambique is relatively well developed, its actual enforcement is still weak. This is due to financial and technical constraints, as well as the large size of the country, which makes close surveillance of the use and management of natural resources very difficult. The role of MICOA as a coordinating agency is thus challenging, and there is a general understanding that the Ministry needs some adjustments and strengthening in order to meet the challenges more efficiently.

To address these problems, the Danish International Development Administration (DANIDA) provided a technical assistance grant to strengthen the instructional capacity of MICOA. The four-year programme (2006–2010) had three main components: a 'technical track' to improve the technical and professional capabilities of MICOA staff; an 'organisational track' to assist performance through sound financial and human resources management; and a 'provincial track' to improve environmental service delivery and enforcement in the provincial government structures.[4]

National EIA Directorate

The National EIA Directorate comprises a team of professional staff, including the National Director. The team is deployed flexibly for the tasks arising within the Directorate, while formally being assigned to two departments – the EIA Department and the Environmental Auditing Department. Consistent with MICOA's coordinating role, the EIA Directorate works closely with other government sectors involved in development or investment projects. Agreements of Understanding have been informally negotiated with and accepted by the National Directors in charge of tourism, industry, forestry and wildlife.

4 www.euroconsult.mottmac.nl

The roles and responsibilities of the EIA Department are set out under Article 5 of the EIA Regulations, No. 45/2004. These may be summarised as follows:

a) Manage and coordinate the EIA process.
b) Issue and release guidelines on the EIA process.
c) Make a pre-assessment of each activity submitted for consideration.
d) Designate and chair the Technical Assessment Commission (TAC) for each Category A activity, whenever it may be deemed necessary;
e) Begin the proceedings and outline the review of the Environmental Pre-viability Report and Scope Definition (Estudo de Pre-viabilidade e Definição do Âmbito (EPDA)) reports, the Terms of Reference and the Environmental Impact Report (EIR), and begin the approval process for Category A activities.
f) Request the participation of experts from the public sector or begin the process of engaging consultants from the private sector whenever necessary for the EIA process.
g) Conduct public hearings and ensure that the public participation process observes the requirements stipulated in the EIA Regulations.
h) Notify the proponent about the payment of environmental licensing fees, as per the requirements of the EIA Regulations.
i) Notify the proponent and the main government stakeholders of the granting of an Environmental Licence.
j) Ensure that the information concerning the Environmental Licence is made available to the public.
k) Issue Environmental Licences.
l) Conduct, in coordination with the protection agencies, the post-assessment process, comprising the analysis of monitoring reports, environmental audits, site inspections, and the control and surveillance of licenced activities.
m) Record, keep and publish the register of professionals and consultancy companies qualified to conduct environmental impact studies.
n) In coordination with the protection agencies, set in motion the legal mechanisms to prevent or demolish any illegal work or stop any illegal activities, including those of environmental consultants, which by their nature may compromise the quality of the environment.
o) Approve the environmental management plan (EMP) for all mining projects classified as Level 2, in terms of the Environmental Regulation for Mining Activities, approved by Decree No. 26/2004 of 20 August (see section 10.3.3).

Provincial Directorates

In order to discharge its mandate more effectively, and in line with the government's decentralisation policy, MICOA has been establishing an increasing institutional presence at lower government levels since 1995.

Provincial Directorates for the Coordination of Environmental Action (Direção Provincial para a Coordenação da Acção Ambiental (DPCAs)) have been set up in all ten provinces (Figure 10.1). The roles and responsibilities of the DPCAs are as follows:

a) Manage and coordinate the EIA process in compliance with the guidelines issued for that purpose.
b) Make a pre-assessment of the activities submitted to them.
c) Designate and chair the TAC for each Category B activity, whenever it may be deemed necessary.
d) Begin the proceedings and guide the review of the specific Terms of Reference for the Simplified Environmental Reports (SERs) for Category B activities, as well as their approval.
e) Ensure that the public consultation process is carried out, and hold public hearings as per the requirements of the EIA Regulations.
f) Approve the SERs.
g) Coordinate with the EIA authority all the formalities required for the EIA, taking into consideration compliance with the provisions of the EIA Regulations.
h) Notify the proponent of the payment of environmental licence fees as per the requirements of the EIA Regulations.
i) Notify the proponent and key government stakeholders of the granting of an Environmental Licence.
j) Issue Environmental Licences for the Category B activities.
k) Conduct the post-assessment process, consisting of the analysis of monitoring reports and environmental audits, either by DPCA officials or by delegation to a competent person or agency.

The role of the DPCAs is, in principle, to facilitate the local implementation of centrally developed environmental legislation, policies and programmes, including the EIA Regulations and Guidelines. Most provincial government structures by now include departments of environmental management, and some (e.g. those in Nampula and Cabo Delgado Provinces) even have separate EIA departments.

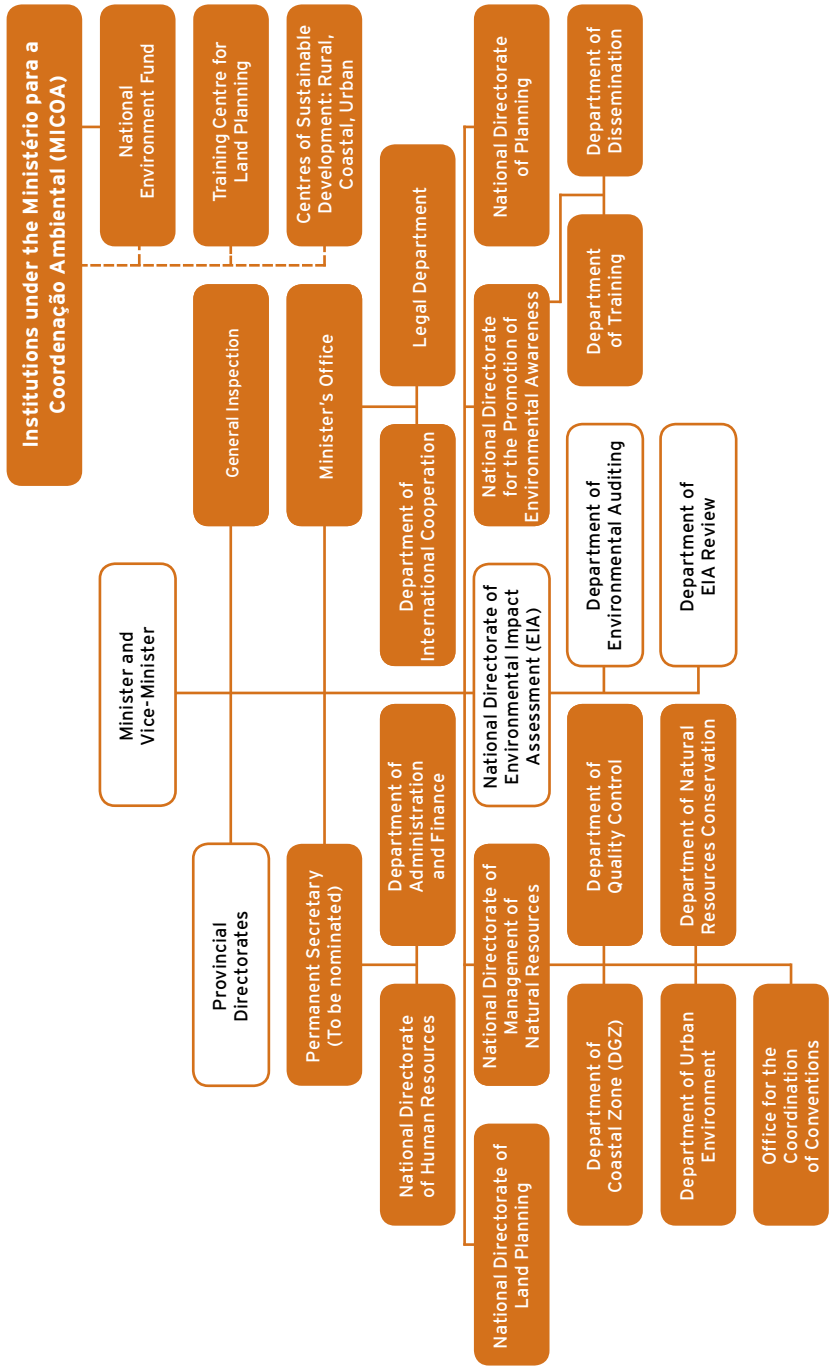


Figure 10.1: Organisational structure of MICOA

10.2.2 Other key government ministries and departments

National Commission for Sustainable Development

A National Commission for Sustainable Development, linked to the Council of Ministers, was created in October 2000 by a provision in the Framework Environmental Act. This Commission seeks to ensure the effective coordination and integration of sectoral policies and plans related to environmental management at the highest level.

Intersectoral cooperation

Environmental management responsibilities are thinly spread across a range of government sectors. The largest ministry, the Ministry of Agriculture and Rural Development, has broad responsibility for natural resource management in important sectors, including agriculture, livestock, forestry and wildlife. This ministry's National Directorate of Forestry and Wildlife is in charge of managing the country's vast forestry and wildlife resources outside national parks and reserves, while responsibility for the country's protected area system has been shifted to the National Directorate for Conservation Areas under the Ministry of Tourism. The National Remote Sensing and Cartography Centre, linked to the Ministry of Agriculture and Rural Development, handles satellite data and is developing a geographic information system (GIS) database. Other important ministries are the Ministry of Fisheries and the Ministry of Trade and Industry, which are involved in larger development projects for which EIAs are required.

10.3 Legal and policy framework for EIA in Mozambique

The existing legislation in Mozambique combines former colonial legislation with laws enacted after independence, with the latter gradually replacing the former. Mozambique inherited from the colonial power the Roman-Germanic legal system, which has a cascade of legal instruments. Table 10.1 presents a summary, showing the hierarchy of various laws with the state bodies competent for enacting them. The Constitution has the highest status.

Table 10.1: Hierarchy of legal instruments

Ranking	Instruments	Enacting organ of state
I	Constitution (Constituição)	Assembly of the Republic (Parliament)
II	Law (Lei)	Assembly of the Republic
III	Decree-Law (Decreto-Lei)	Council of Ministers
IV	Decree (Decreto)	Council of Ministers
V	Presidential Decree (Decreto Presidencial)	President of Republic
VI	Ministerial Regulation (Diploma Ministerial)[5]	Ministry or Ministries, jointly
VII	Ministerial Order (Despacho)	Minister

10.3.1 National Environmental Management Programme, 1995

In the early 1990s, it was recognised that many of Mozambique's policies and laws relating to environmental protection and natural resources management were outdated, both nationally and globally. Following the creation of the National Environmental Commission (NEC) in 1990, environmental issues began to receive an increasingly higher profile. One of the first documents produced by the then newly formed MICOA was the National Environmental Management Programme in 1995. This document outlines the priorities for environmental management and sustainable development in Mozambique.

10.3.2 Environment Law

The Environment Law (Lei do Ambiente), No. 20/97 of 1 October 1997, is the foundation for the whole set of legal instruments for the preservation of the environment. This is an umbrella law for environmental matters and is an important instrument for the enactment of specific regulations. Article 1 (section 2) defines the environment as:

the medium in which humans and other beings live and interact among themselves and with the medium itself, including:

a) air, light, land and water;
b) ecosystems, biodiversity and ecological relationships;
c) all organic and inorganic matter;
d) all socio-cultural and economic conditions that affect the lives of communities.

As established in Article 2, the objective of the Environment Law is to define the legal basis for judicious utilisation and management of the environment and its components, with a view to achieving sustainable development in the

5 Equivalent to Ministerial Regulations, then enacted by Portuguese Ministers were 'portarias' or ordinances. These were made applicable to Portuguese colonies, including Mozambique.

country. The ambit of the Environment Law comprises all activities, public or private, which directly or indirectly may influence the environment. Taking into account the constitutional provision for 'an ecologically balanced environment' for all citizens, Article 4 of the Law establishes, inter alia, the following basic principles for environmental management:

a) Rational utilisation and management of the environment to promote improved quality of life of citizens and the maintenance of biodiversity and ecosystems;
b) Recognition of traditions and local knowledge that may contribute to the conservation and preservation of natural resources and the environment;
c) Precaution, in the sense that activities that might harm the environment must be prevented, especially if there is insufficient scientific certainty about the likelihood of the occurrence of such impacts;
d) A global, integrated vision of the environment as a grouping of interdependent ecosystems that must be managed in such a way as to maintain their functional equilibrium without exceeding their intrinsic limits;
e) Public participation;
f) Equitable access to natural resources by all; and
g) Commitment to minimising transboundary impacts.

In legal terms, principles can be defined as statements expressing the direction of the law. The above principles appear to be central to the Environment Law, as they contain the main policy statements regarding environment.

The Environment Law sets out the following:

Chapter I: General dispositions, including definitions
Chapter II: Environmental management institutions
Chapter III: Environmental pollution
Chapter IV: Special measures for environmental protection
Chapter V: Prevention of environmental damage
Chapter VI: Citizens' rights and duties
Chapter VII: Exercise of economic activities
Chapter VIII: Environmental supervision
Chapter IX: Final dispositions

Chapter V of the Environment Law refers to the prevention of environmental damage. Under this clause, licensing of activities that are liable to cause significant environmental impacts is required. The issuance of an *Environmental Licence* is dependent on an appropriate level of EIA being completed and accepted by MICOA. Importantly, the Environment Law obliges all sectoral legislation that deals in any way with the management of components of the environment to be reviewed and revised so that it conforms to the Environmental Law (Article 32).

The Environment Law makes no specific provision for strategic environmental assessments.

10.3.3 Regulations

MICOA has developed a number of Regulations relating to environmental management in terms of Article 16(2) of the Environment Law.

The EIA process is set out in the *Regulations on the EIA Process* (Regulamento sobre o processo de avaliação do impacto ambiental), Decree No. 45 of 2004 (as amended). These Regulations replace those of Decree No. 76 of 1998. They apply to all public or private activities that may have a direct or indirect impact on the environment; however, specific Regulations may be made for activities relating to the prospecting, exploration and production of petroleum, natural gas and mineral resources.[6] The Regulations also set out in the Appendices the listed activities for which an EIA or SER may be required, as well as a list of sensitive environments (see Appendix 10-1 of this chapter)

To date (2011), the following additional Regulations have been made for:

- *Industrial activities* (Regulamento do licenciamento da actividades industrial, Decreto No. 39/2003);
- *Mining* (Regulamento ambiental para actividade mineira, Decreto No. 26/2004);
- *Standards for environmental quality and effluent emissions* (Regulamento sobre os padrões de qualidade ambiental e de emissão de efluentes, Decreto No. 18/2004); and
- *Environmental auditing* (Regulamento relativo ao processo de auditoria ambiental, Decreto No. 32/2003).

The EIA process is described in more detail in section 10.4 and the environmental standards are set out in section 10.3.8.

10.3.4 Permits and licences

Article 15 of the Environment Law states that the licensing and registration of activities that may have a significant impact on the environment must be carried out according to the EIA Regulations. Also, the issuance of an *Environmental Licence* must be based upon an approved EIA of the proposed activity. The Environmental Licence is a prerequisite for the issuance of any other licence or permit that may be legally required.[7]

The activity for which an *Environmental Licence* has been issued has to start within two years from the date of issue of the licence. If the developer fails

6 Article 2(2) of the EIA Regulations.
7 Article 15(2) of the Environment Law.

to commence activity within that period, s/he can request permission from MICOA to extend the licence period, in writing, no less than 90 days before the licence expires. MICOA will then decide to extend the period of validity, request new information, or request a new EIA.[8]

Environmental Licences for all activities are valid for a period of five years, renewable for an equal period. The application for a licence must be made in writing to MICOA. For Category A and B projects, it should be accompanied by a fee of MT10 000 and MT5000 respectively. The updating of these licences will depend on the presentation of an updated EMP (for Category A and B projects) and a report on environmental performance relative to the conditions set out in the authorisation document for Category C activities. The application for renewal has to be submitted at least 180 days before the licence expires.[9]

10.3.5 Offences and penalties

The penalties are set out in Article 26 of the EIA Regulations, and the grading of fines is set out in Article 27. A summary of the offences and penalties is provided in Table 10.2.

Table 10.2: Offences and penalties

Offence	Penalty
Administrative offences, such as the obstruction or hindrance of authorities without just cause, while carrying out their duties under the Regulations	Fine of MT20 – 50 million, as well as the imposition of any other sanctions provided for in law
Failure to update the Environmental Licence as per Article 20(4) of the EIA Regulations	Fine of MT10 – 20 million: the lower value would be applied to a first offence and the higher value to subsequent or multiple offences.
Implementation of a listed activity without an Environmental Licence	A fine equivalent to double the licensing fee for the particular activity, as well as the immediate suspension of the activity
Conducting an EIA study without being registered in terms of Article 21 of the EIA Regulations; Submitting an application for an Environmental Licence for a listed activity after commencing implementation of said activity; Alteration of a licenced activity without prior approval from the competent authority; Presentation of fraudulent information, falsification of facts, or omissions during the EIA process; Failure to implement the mitigation measures proposed in the Environmental Impact Study, as well as non-compliance with the terms and conditions of the Environmental Licence; Repeated offences	Fine of MT24 – 240 million (see Article 27 for the calculation of individual fines for these offences)

8 Article 20 of the EIA Regulations.
9 Article 20 of the EIA Regulations, as amended by Decree No. 42/2008.

10.3.6 Fees

Article 25 of the EIA Regulations, as amended by Decree No. 42/2008, sets out the fees for environmental licensing and for registration as an environmental consultant.

Table 10.3: Licensing and registration fees

Activity	Fee
Licensing of Category A and B projects	0.2% of the total value of the investment in the activity
Issuance of a Declaration of Exemption for Category C projects	0.02% of the total value of the investment in the activity
Purchasing of a Pre-Evaluation Form	MT20
Application to change name on Environmental Licence	Category A: MT5 000 Category B: MT3 000 Category C: MT2 000
Registration fees	
Registration and issuance of a Certificate for individual environmental consultants	MT10 million
Registration and issuance of a Certificate for environmental consulting companies	MT30 million
Updating of registration every three years for individual environmental consultants	MT5 million
Updating of registration every three years for environmental consulting companies	MT15 million

10.3.7 Guidelines

No guidelines have been developed in Mozambique relating to the EIA process itself or as may be applied to an industry sector.

10.3.8 Environmental standards

Regulations relating to standards for environmental quality and effluent emissions were published in the Government Bulletin on 2 June 2004 (Decree No. 18/2004). The purpose of these Regulations is to establish standards for environmental quality and effluent emissions, aiming at the control and maintenance of the admissible levels of concentration of pollutants in the environment.

The provisions of these Regulations are applicable to all new public and private activities that may affect the environment directly or indirectly. Existing factories and processing plants have to adapt their equipment to ensure compliance within five years from the date of publication of the Regulations.[10]

10 Article 26 of the Regulations on environmental quality standards.

Article 6 of the Regulations requires them to be reviewed (and updated) every five years, unless the obligations deriving from an international convention require more urgent action. The Regulations cover air quality (Chapter II), water quality (Chapter III), soil quality (Chapter IV), and noise (Chapter V).

Non-compliance with any of the pollution standards set out in the tables below or failure to report exceedances is punishable with a fine of between MT20 million and MT200 million.[11]

Table 10.4: Air quality standards

Parameter	Sampling time							
	1 hour		8 hours		24 hours		Annual arithmetical mean	
	Primary	Secondary	Primary	Secondary	Primary	Secondary	Primary	Secondary
Sulphur dioxide (SO_2)	800				365		80	
Nitrogen dioxide (NO_2)	400				200		100	
Carbon monoxide	40 000		10 000					
Ozone	160				50		70	
Total suspended particles					200			
Lead	3						0.5 - 1.5	

Values in mg/Nm^3. Nm^3: normal cubic metre (0ºC, 101.3 kPa)

Table 10.5: Standards for emission of gaseous pollutants by industries

Type of activity	PTS	SOx	NOx	Others
Aluminium manufacture	30			Total fluorine = 2 // Hf = 1 // VOCs = 20
Cement manufacture	50	400	600	
Chlorine-alkaline industry				Cl = 3
Production and extraction of coal	50			
Coke manufacture	50			Benzene = 5 // VOCs = 20 // reburning of sulphur at least 97%
Copper works	Smelting = 20 Others = 50	1 000 (SO_2)		As = 0.5 // Cd = 0.05 // Cu = I // Pb = 0.2 // Hg = 0.05
Dairy	50			Acceptable odour for the neighbours
Ink manufacture (dyeing)				Cl = 10 // VOCs = 20
Electronic manufacture				VOCs = 20 // phosphine 1 // arisine 1 // HF = 5 // HCl = 10
Smelting	20 where there is presence of toxic metals; 50 in others			
Fruits and vegetable processing	-50 if >50 Mwe 100 if <50 Mwe	2 000 (SO_2)	Coal = 750 Oil = 460 Gas = 320	Dioxins = maximum 1 ng/Nm^3
Glass manufacture	-20 where there is presence of toxic metals; -50 in others	1 800 oil burning 700 gas burning	1 000 - 2 000	Pb + Cd = 5 // total of heavy metals = 5 // As = 1 // F = 1 // HCl = 50
Paper and pulp	100 (reburning kiln)		2 Kg/t ADP	H_2S = 15 (lime kiln) // s TOTAL 1.0 - 1.5 Kg/t
Sugar	100 150 for small kilns > 8.7 MW	2 000	Liquid fuel = 460 Solid fuel = 750	Odour acceptable for the neighbourhood
Fur industry (tanning)				Acceptable odour
Textile industry				VOCs = 20
Thermo-electrical stations (new)	50	0.2 per day (500 MW) 0.1 per day (<500 MW)	Coal = 750 Diesel = 460 Gas = 320	
Vegetable oil	50			Acceptable odour
Wood preservation	50			VOCs = 20

Values in mg/Nm^3. Nm^3: normal cubic metre (0ºC, 101.3 kPa)
PTS: total of suspended particles
VOC: volatile organic compound

Table 10.6: Standards for emission of domestic liquid effluents

Parameter	Permissible maximumm value	Units	Remarks
Colour	Dilution 1:20	Presence/absence	
Odour	Dilution 1:20	Presence/absence	
pH, 25ºC	6.0 - 9.0	Sorensen scale	
Temperature	35ºC	ºC	Increase in the receiving medium
Chemical oxygen demand	150.0	mg/l O_2	
Total suspended solids	60.0	mg/l	
Total phosphorus	10.0	mg/l	3 mg/l in sensitive zones
Total nitrogen	15.0	mg/l	

11 Article 24 of the Regulations on environmental quality standards.

Appendix III of the environmental quality Regulations specifies the effluent quality limits for a range of industries, listed below. The reader is referred to the Regulations, as the tables are too voluminous for inclusion in this Handbook.

Table 10.7: List of industries that have specific effluent standards (see Appendix III)

Aluminium production	Meat processing	Vegetable oil production
Brewery	Production of phosphate and nitrate fertilisers	Wood treatment and preservation
Cement industry	Petrochemical industry	Production of vehicle batteries
Mining and production of coal	Pharmaceutical industry	Sundry chemical industries
Coke production	Petroleum industry	Metallurgy
Dairies	Printing	Minerals and metallurgical processing
Smelting processes	Pulp and paper industry	Production of plastics and synthetics
Vegetable and fruit processing	Sugar industry	Rubber manufacture
Electronics industry	Tanning industry	Production of soaps and detergents
Glass manufacture	Textiles	Workshops and filling stations
Iron and steel production	Thermal power stations	Food processing

Table 10.8: Standards relating to the receiving medium (sea/ocean)

Parameter	Maximum Limit[12]
Floating solids	Virtually absent
Oils and grease	Virtually absent
Substances that produce colour, odour and turbidity	Virtually absent
Artificial colorants	Virtually absent
Substances that form objectionable deposits	Virtually absent
Substances and conditions that give rise to undesirable aquatic life, e.g. invasive organisms	Virtually absent
Biological oxygen demand	5 at 20ºC $\leq$ 5 mg/l
Dissolved oxygen	$\leq$ 6 mg/l
pH	Between 6.5 and 8.5; there should not be a change in the value of normal pH greater than 0.2 units
Potentially harmful substances	
Aluminium	1.5 mg/l
Ammonia	0.4 mg/l
Antimony	0.2 mg/l
Arsenic	0.05 mg/l
Barium	1.0 mg/l
Beryllium	1.5 mg/l
Boron	5.0 mg/l
Bromine	0.1 mg/l
Cadmium	0.005 mg/l
Lead	0.01 mg/l
Cyanide	0.005 mg/l
Residual chlorine	0.01 mg/l
Copper	0.05 mg/l
Total chrome	0.05 mg/l
Tin	2.0 mg/l
Phenols	0.001 mg/l
Soluble iron	0.3 mg/l
Fluorides	1.4 mg/l
Manganese	0.1 mg/l
Mercury	0.0001 mg/l
Nickel	0.1 mg/l
Nitrates	10.0 mg/l
Nitrites	1.0 mg/l
Silver	0.005 mg/l
Selenium	0.01 mg/l
Surface-active substances that react to methylene blue	0.5 mg/l
Sulphides such as H_2S	0.002 mg/l
Thallium	0.1 mg/l
Uranium	0.5 mg/l
Zinc	0.01 mg/l

Standards are also provided for organo-chlorines and herbicides (see Appendix V of the Regulations).

12 In the calculation of the permissible maximum concentrations, the discharge of liquid effluents obtained through the dilution of the effluent with unpolluted water will not be considered (for example, supply water or water used in cooling).

10.3.9 Registration of environmental consultants

In terms of Article 21 of the EIA Regulations, only specialists, intermediate or advanced EIA professionals (técnicos médios e superiores) who are registered as environmental consultants can undertake an EIA in Mozambique. Consultants can be registered as individuals, companies or as a consortium of companies (e.g. for a specific project).

To be registered as an 'advanced' EIA professional, the consultant must have at least five years relevant experience. Only an advanced professional can act as a project manager and sign off on EIA reports. Intermediate professionals with less than five years relevant experience can only work as members of an EIA team under the leadership of a consultant registered as an advanced professional.

Non-Mozambican companies that wish to conduct an EIA in the country must either be subcontracted to a registered Mozambican company or form part of a consortium with a registered company. In addition, the company must submit documentation listing similar projects undertaken, curricula vitae (CVs) and the qualifications of each member of the proposed EIA team.

In order to register, the consultant must submit the following to the authorities:

- Name, nationality, profession, place of work and residential address;
- Certificates of tertiary academic qualifications;
- CV demonstrating relevant experience and environmental knowledge;
- Single number for tax identification;[13]
- Statement to the effect that the consultant is not employed by MICOA; and
- Proof of professional insurance, either for an individual or a company.

If the applicant is a company, it must submit information about each of the professional consultants as above, as well as the company registration number and tax numbers.

After receiving the application in writing, together with the fee specified in Table 10.3 above, the EIA Authority must issue a Certificate of Registration within *ten days* of receiving the application.

The registration certificates must be renewed every *three years* on the presentation of an updated CV and payment of fees as shown in Table 10.3 above.

10.4 EIA procedural framework in Mozambique

The steps to be taken in conducting an EIA are set out in the EIA Regulations, No. 45/2004, and are summarised below. The process to be followed is slightly different depending on whether the project is in Category A, B or C. Table 10.9 and Figure 10.2 will assist readers to determine which components of the process they must follow.

Table 10.9: Components of the EIA process required by project category

Component of EIA process	Category A projects (EIA required)	Category B projects (EIA or SER required)	Category C projects (no EIA or SER required)
Application	Yes	Yes	Yes
Pre-assessment	No	Yes	No
EPDA	Yes	No	No
Terms of Reference	Yes	Yes	No
EIA	Yes	No	No
SER	No	Yes	No
Public participation programme	Yes	Maybe	No
Review by TAC	Yes	Yes	No

13 Item added in Decree No. 42/2008.

10.4.1 Application and screening

As a first step, a proponent must consult Appendices I, II and III of the EIA Regulations (reproduced in Appendices 10-1, 10-2 and 10-3 of this Handbook) to determine which category the project falls into:

- Category A projects (Appendix I of the Regulations) are those projects that may have a significant impact on the environment and, therefore, require an EIA.
- Category B projects (Appendix II of the Regulations) do not significantly affect communities or environmentally sensitive areas. The likely negative impacts are expected to be of minor duration, intensity, extent, magnitude and significance compared to Category A projects, and few impacts are likely to be irreversible. The impacts that may occur can readily be mitigated. Therefore, only a SER is required for Category B projects.
- Category C projects (Appendix III of the Regulations) are likely to have an insignificant, negligible or minimal effect on the environment, none of which are likely to be irreversible. The benefits of the project clearly outweigh the negative impacts. Therefore, these projects do not require either an EIA or a SER.

All proponents (irrespective of which category of project they may be proposing) must submit the following information to either the central EIA authority or the respective DPCA:[14]

- Description of the activity;
- Need and desirability of the project;
- Legal framework for the activity;
- Brief description of the biophysical and socio-economic structure of the region;
- Current land use on the proposed site;
- Environmental information from the site;
- Description of each stage of the EIA process e.g. submission of Terms of Reference, EPDA, EIA and SER;
- Completion of the preliminary environmental information sheet (Appendix IV of the Regulations and attached as Appendix 10-4 of this chapter).

10.4.2 Pre-assessment

Only Category B projects need to be pre-assessed. The pre-assessment is based on the following:

- The information provided in the application (see section 10.4.1);
- The assessment criteria listed in Article 8 of the Regulations, which include:
  - Number of affected people and communities;

14 Article 6 of the EIA Regulations.

- Nature and type of affected ecosystems and species;
- Extent of the area affected;
- Probability, nature, duration, intensity and significance of potential impacts;
- Direct and indirect impacts, global and cumulative effects;
- The reversibility of impacts and the likelihood of compliance with Mozambican environmental quality standards;

- Previous knowledge of the proposed site; and
- Checking whether the activity should be classified as a Category A, B or C project.

If the project is found to be exempt from an EIA or SER, MICOA will issue a Declaration of Exemption within *five working days*, and the proponent is encouraged to follow specific guidelines on good environmental management.

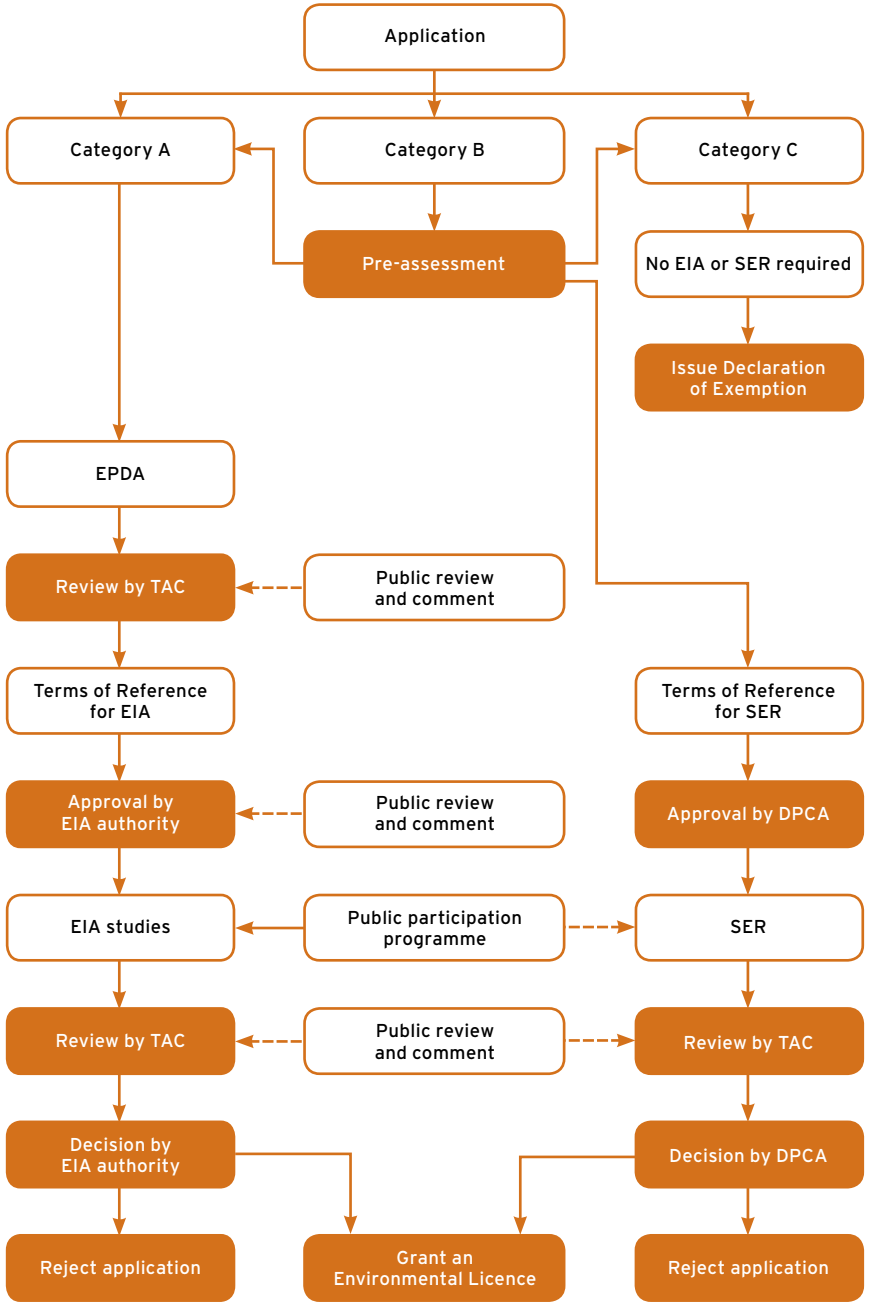
10.4.3 Environmental Pre-Viability Report and Scope Definition

An EPDA is compulsory for all Category A projects (see Figure 10.2). Its main purpose is to determine any fatal flaws in the project and, if there are none, to determine the scope of the EIA and the design of the Terms of Reference.

The EPDA must contain the following information:

- Non-technical summary highlighting the main issues and conclusions;
- Names and contact details of the proponent and the lead EIA consultant;
- The sphere of influence of the proposed activity (both direct and indirect), and the pre-development land use in this zone;
- Description of the activity, including all actions relating to the planning, construction, exploration and decommissioning (if a short-term project) stages and all reasonable alternatives;
- Description of the biophysical and socio-economic environments;
- Identification and assessment of any fatal flaws;
- Indication of potential environmental impacts; and
- Identification and description of the aspects to be investigated in detail in the EIA (specialist studies).

Figure 10.2: EIA and SER processes



Shaded blocks indicate activities by the competent authority.

The EPDA, written in Portuguese, must be submitted to the EIA authority together with the Terms of Reference for the EIA. The number of copies will be determined during the pre-assessment. The EPDA will be reviewed by the TAC, which may request further information from the applicant (see Figure 10.2).

The TAC will also take into account all declarations and statements, both written and oral, made during the public consultation process, as long as such comments are related to the environmental impact of the activity being considered.[15]

10.4.4 Terms of Reference

The Terms of Reference set out the process to be followed in the EIA or SER and should contain at least the following:

- Description of the specialist studies (Category A projects only);
- Location of the project, its sphere of influence and current land use (Category B projects only);
- The compatibility of the project in the land use planning context (Category B projects only);
- Description of reasonable alternatives that will be investigated in the EIA or SER;
- Methodology to be used to identify impacts during each stage in the project life cycle;
- Description of the proposed public participation process;
- Name and address of the proponent;
- Names of the EIA team; and
- Any other additional information as may be necessary.

For Category A projects, the Terms of Reference must be submitted to the EIA authority for approval before commencing with the EIA, while the Terms of Reference for Category B projects will be reviewed by the TAC appointed by the DPCA (see Figure 10.2).

10.4.5 Environmental Impact Study

Before the commencement of the Environmental Impact Study, the applicant must submit an application form to undertake the EIA process to the National Director for EIA. A pro forma of this form and a list of required information is provided in Annex 5 of the EIA Regulations (as amended).[16]

Article 12 of the Regulations defines the content of an Environmental Impact Report, which must contain at least the following:

- A non-technical summary covering the main issues and conclusions;
- The legal and planning context of the activity;
- A description of the activity and its alternatives in the planning, construction, operation and, in the case of a short-term activity, decommissioning phases;
- Geographical location of the area of influence of the activity, as well as a description of the baseline environmental situation;
- A comparison of the alternatives and a prediction of the environmental impacts of each alternative with and without mitigation measures applied;
- Identification and assessment of the impacts and mitigation measures;
- An EMP that includes the monitoring of impacts, environmental education, and accident prevention and contingency plans;
- Names of the team that carried out the study; and
- A report on the public participation programme.

The specialist study reports must be attached to the Environmental Impact Report in the form of appendices.

The Environmental Impact Report must be submitted to the EIA authority in Portuguese (see Figure 10.2). The number of copies to be submitted will be determined during the approval of the Terms of Reference.

10.4.6 Simplified Environmental Report

Once the Terms of Reference for the Simplified Environmental Report (see section 10.4.4 above) has been approved by the DPCA, the proponent must commence the SER. The report should contain at least the following:

- A non-technical summary covering the main issues and conclusions;
- The legal and planning context of the activity;
- The location and description of the activity;
- A brief description of the baseline environmental situation;
- Identification and assessment of the impacts;
- An EMP, which includes the monitoring of impacts, environmental education, and accident prevention and contingency plans;
- Names of the team that carried out the study; and
- A report on the public participation programme.

The report must be submitted to the relevant DPCA, written in Portuguese (see Figure 10.2). The number of copies will be determined during the approval of the Terms of Reference.

10.4.7 Public participation process

The proponent is responsible for the public participation process during the compilation of the Environmental Impact Report or SER; however, MICOA

15 Article 1 of Decree No. 42/2008, which amends some of the EIA Regulations in Decree No. 45/2004.
16 Article 2 of Decree No. 42/2008.

may seek public comment or hold public hearings during the review of any documents submitted for their approval (see Figure 10.2).

Public participation is mandatory for Category A projects but is optional for Category B projects. In this case, the need for public participation depends on the number of people who may need to be resettled by the project and whether access to natural resources by local communities will be restricted because of the project.

Article 13 of the Regulations sets out in broad terms the basic components of the public participation process: a public meeting must be advertised at least *15 days* in advance, to which all interested and affected parties must be invited, and the technical reports of the Environmental Impact Report must be made available for public comment.

10.4.8 Review of the Environmental Impact Report

The same TAC that reviewed the EPDA will review the Environmental Impact Report. The TAC will submit a report on its comments to the EIA authority, taking into account all the comments and submissions made by the public during the review period. During this period, the proponent may be asked to submit additional information to assist the TAC in its review. The findings of the TAC's report will form the basis for the decision taken by the EIA authority on the granting of an Environmental Licence.

10.4.9 Review of the Simplified Environmental Report

The SER must be submitted to the relevant DPCA for review. The DPCA will, in turn, appoint a TAC to review the SER. In making its decision on the SER, the TAC must consider all the comments and submissions made by the public during the review period. During this period, the TAC may request additional information to ensure that all the proposed actions in the approved Terms of Reference have been fulfilled. The findings of the TAC will be submitted to the DPCA in a signed report, which will form the basis for the decision taken by the DPCA on the granting of an Environmental Licence.

10.4.10 Timetable for decision-making

Article 18 sets out the timetable for decision-making, as shown in Table 10.10.

Table 10.10: Timetable for decision-making in the environmental assessment process

EIA component	EIA authority	DPCA
Pre-assessment	5 days [17, 18]	8 days
EPDA	30 days	-
Terms of Reference	30 days	15 days
EIR	45 days	-
SER	-	30 days
EMP (for Level 2 mining activities)	15 days	-

10.4.11 Inspection and audit

In terms of Article 24 of the EIA Regulations (as amended), MICOA must make regular inspections of the construction sites for new activities and the operations of existing facilities. If the situation is complex or where environmental conditions justify it, MICOA can request an environmental audit to be conducted. In addition, auditors of Category B projects should be given an EMP, which contains at least the following:

a) Impact monitoring schedule, clearly indicating the mitigation measures, accountability and frequency of respective actions of intervention;
b) Environmental education programme; and
c) Accident contingency plan.

10.5 Other relevant environmental legislation

The following table provides a brief overview of the various laws and regulations developed by other sectors that may have a bearing on the EIA.

17 Days are defined as working days.
18 The periods indicated are counted from the date of the registration of documentation by the competent authority, and are interrupted when supplementary information is required from the proponent.

Table 10.11: Potentially applicable sector legislation

Sector	Primary agency	Title and date of document	Purpose
Water resources	Ministry of Public Works and Housing	National Water Policy, 1995, amended in October 2007 1990 Constitution Act and Water Law (Law 16/91) Southern African Development Community (SADC) Protocol on Shared Watercourses is important. National Water Resource Management Strategy, 2007	The National Water Council (Conselho Nacional de Águas (CNA)) is an advisory committee. Regional water authorities are called ARAs (Administração Regional de Águas or Regional Water Administrations) and are governed by the Ministry for Public Works and Housing through the National Directorate for Water. There are three in the country: ARA-Sul, ARA-Centro and ARA-Norte. The Zambezi Valley Planning Office (Gabinete do Plano e. Desenvolvimento do Vale do Zambeze (GPZ)) might also have jurisdiction over water matters on the basin. Concessions and licences for the use and enjoyment of water and the release of effluents are subject to mandatory registration in the National Waters Register, implemented by ARA-Sul. Current water policy and law focus on water for domestic, livelihood and industrial uses.
Air	MICOA	Dec 18/2004, New Regulations on Environmental Quality and Effluent Discharge Decree No. 24/2008, Regulations on the Management of Substances that Deplete the Ozone Layer	MICOA is responsible for the implementation and monitoring of this Regulation, which sets out potential fines. The Regulations restrict the importation and use of chemicals that deplete the ozone layer. A climate change adaptation plan was developed in December 2007.
Noise	Department of Labour	Legislative Diploma No. 48/73, General Regulations on Hygiene and Safety on Industrial Plant	The Regulations do not specify standards but relate to measures to protect workers.
Waste – liquid effluents	MICOA	Decree No. 18/2004, Regulations on the Parameters for Air Quality and Effluent Emissions	The Regulations set standards for discharge to marine and coastal environments, as well as for surface irrigation of waters.
Waste	Each municipality (i.e. only urban)	Municipality Law No. 2/97	Local municipalities need to ensure basic sanitation and quality of life. The Law sets out municipal responsibility to develop programmes for ecological protection and procedures for the removal of solid waste, and the treatment and disposal of solid residues, including medical and hazardous waste.
Planning and zoning	Ministry of Planning and Development	Legislation in preparation	This is a new Ministry (formed in February 2005), which is supposed to coordinate all planning by sectors. Current opinion is that this will become an extremely important and powerful Ministry in the future.
Land use planning and development	National Land Cadastre, Ministry of Agriculture, Council of Ministers	Land Law No. 19/97 Decree No. 66/98, Land Law Regulations	The Law determines the method and process of land rights. It identifies which developments can apply for Partial Protection Zones and the distances, aerial, surface and underground installations of electricity, gas and telecommunications. The Law sets the special licence requirements for activities in the Partial Protection Zones.[19]
Mining and mineral resources	Ministry of Mineral Resources and National Petroleum Institute (Instituto Nacional de Petróleo (INP))	Petroleum Law, No. 3 of 2001 Petroleum Operations Regulations, No. 24 of 2004 Decree No. 26, 2004, provides environmental regulation for mining activities.	This provides a legal framework for the sector, including the protection of investor rights.

19 The law designates Partial Protection Zones, which include the 100 m strip of land surrounding sources of water and the 250 m strip of land surrounding dams and reservoirs.

Table 10.11: Potentially applicable sector legislation *(continued)*

Sector	Primary agency	Title and date of document	Purpose
Conservation	Ministry of Tourism: National Directorate for Conservation Areas	Conservation Policy and Implementation Strategy, 2009 Regulation for Control of Alien Invasive Species, 2008	The Directorate is the primary agency in charge of the protection of national parks, unless these parks have specifically been declared and are administered by another sector agency. The conservation agency is thus not under one jurisdiction, which makes coordination and efficiency difficult to achieve.
Wildlife and natural resources (including forestry)	Ministry of Agriculture National Directorate of Forestry and Wildlife	Forestry and Wildlife Law, No. 10 of 1999	It should be noted that wildlife and conservation issues are split along sectoral lines. For example, the Ministry of Agriculture is in charge of game ranching and forest reserves, and the Ministry of Fisheries is empowered to declare marine reserves. The overall objective of this Law is extremely broad – 'to conserve, utilise and develop forest and wildlife resources for the social, ecological and economic benefit of the present and future generations of the Mozambican people'. The holder of the land rights and development rights must obtain a licence for the exploitation of fauna and flora resources. The Law identifies protected areas: national parks, national reserves and cultural heritage sites.
Agricultural and land	Ministry of Agriculture	Land Law, No. 19 of 1997, and Regulations (Law 66/98) and Technical Annex (29-A of 2000)	This Law provides the legal framework for ownership and control of land and natural resources in Mozambique. It defines certain land use allocations, including areas intended for nature conservation, defence, etc. An action plan for the prevention and control of soil erosion was developed in December 2007, as well as an action plan for the prevention and control of uncontrolled burning.
Fauna and flora	Ministry of Agriculture	Decree No. 12/2002, Regulation for Flora Resources Protection	The Decree applies to all activities of protection, conservation, use and production of fauna and flora.
Fisheries	Ministry of Fisheries	Fisheries Law, No. 3 of 1990	The Ministry is responsible for the management of freshwater and marine fish resources, as well as overseeing aqua- and mariculture industries.
Transmission (electricity)	Ministry of Energy	Electricity Law, No. 21/97	The Law applies to the production, transport, distribution and sale of electric energy in Mozambique, as well as the import or export of electricity.
Human resettlement, compensation and rehabilitation	Ministry of Gender and Social Affairs		The Ministry is particularly relevant in the case of a project requiring the displacement (involuntary resettlement) of people.
Archaeological, historical and cultural	Ministry of Culture (Department of Monuments)	National Heritage Protection Law, No. 10/88 of 22 December 1988 Decree No. 27/94, Regulations on the Protection of Archaeological Heritage Property	This Ministry will need to be consulted in the context of archaeological finds in the area of a proposed project. Any fortuitous find must be communicated with 48 hours to district administrators or the city council. Work must be suspended to avoid damage.

Appendix 10-1

Category A activities

The types of projects that require an EIA are listed in Appendix I of the EIA Regulations.

Activities relating to and/or situated in areas with characteristics described below are classified as activities of Category A:

a) Areas and ecosystems recognised as having special statute under the national and international legislation, such as:
   - Coral reefs;
   - Mangroves;
   - Indigenous forests;
   - Small islands;
   - Zones of imminent erosion, including frontal dunes;
   - Zones exposed to desertification;
   - Zones or areas of conservation or protection;
   - Marshes;
   - Zones containing endangered species of animal or vegetation, habitats and ecosystems;
   - Zones of unique scenery;
   - Zones of archaeological, historical and cultural value to be preserved; and
   - Protection areas around water supply springs and fountains;

b) Densely populated areas that imply the need for resettlement;

c) Densely populated areas where the activity involves unacceptable levels of pollution or other type of disturbance significantly affecting the resident communities;

d) Regions subject to high levels of development or regions where there are conflicts in the distribution and use of natural resources;

e) Areas along rivers or areas used by local communities as a source of domestic water supply; and

f) Zones containing valuable resources, e.g. aquatic, mineral and medicinal plants.

The following are included in this category:

1. Infrastructure
   a) All activities requiring population resettlement;
   b) Activities of urban allotment development and/or development of new settlements or suburbs of more than 20 ha;
   c) Tourist undertakings outside urban zones or in zones without land use plans – with capacity equal to or higher than 150 beds or an area equal to or greater than 10 ha;
   d) Camping sites for more than 650 users or with an area equal to or greater than 5 ha;
   e) Activities of industrial allotment with more than 15 ha;
   f) Settlement or expansion of recreational areas, such as golf courses, in an area equal to or greater than 5 ha;
   g) Marinas and docks with more than 50 mooring points;
   h) All main roads outside urban zones, construction of new roads;
   i) Railway and road bridges more than 100 m long;
   j) Railways of length equal to or longer than 5 km;
   k) Airports, aerodromes and heliports with a runway of length equal to or greater than 1800 m;
   l) Pipelines of more than 0.5 m diameter and more than 10 km in length;
   m) Oil pipelines, gas pipelines, ore ducts and submarine cables of more than 5 km in length;
   n) Establishment or expansion of ports and port facilities for vessels with tonnage greater than 4000 GT;
   o) Dams and weirs with an inundated area equivalent to or greater than 5 ha;
   p) Adducers or aqueducts of more than 10 km in length and diameter equal to or greater than 1 m;
   q) Scrap yards with more than 5 ha;
   r) Exploration for and use of underground water resources, including the production of geothermal energy, which implies the extraction of more than 500 m^3/h or 12 000 m^3/day; and
   s) Dredging of new access channels to the ports.

2. Forestry exploration
   a) Grubbing up, parcelling and exploration of indigenous vegetative cover with areas, individual and cumulative, greater than 100 ha; and
   b) All activities of deforestation with more than 50 ha, reforestation and afforestation with more than 250 ha.

3. Agriculture
   a) Activities of parcelling for agriculture of more than 350 ha with irrigation and of 1000 ha without irrigation;
   b) Conversion of agricultural land for commercial, urban or industrial purposes;
   c) Conversion of areas equal to or more than 100 ha of agricultural land without cultivation for more than five years, to intensive agriculture;
   d) Introduction of new crops and exotic species;

e) Irrigation systems for areas of more than 350 ha;
f) Activities of aquaculture or mariculture with more than 100 tons of production per year and area equivalent to or greater than 5 ha;
g) Activities of intensive animal breeding of more than:
   - 100 000 poultry;
   - 3000 pigs and/or 100 breeding sows; and
   - 500 cattle and individual or cumulative area of less than 2000 ha (4 ha/animal); and
h) Aerial spraying over areas, individual or cumulative, greater than 100 ha.

4. Industry

4.1 Production and processing of metals

a) Production and processing of metals with a production higher than 2.5 ton/day;
b) Surface treatment of metals and plastics that use chemical and electrolyte processes – total volume of treatment furnaces equal to or greater than 30 m^3;
c) Manufacture and assembly of automotive motors and vehicles;
d) Naval shipyards covering an area equal to or greater than 5 ha or shoreline length equal to or greater than 150 m; and
e) Manufacture of railway equipment.

4.2 Chemical industries

a) Treatment and manufacture of dangerous substances classified as provoking cancer, mutagenic or toxic;
b) Manufacture of pesticides;
c) Manufacture of pharmaceutical products;
d) Manufacture of paint and varnish;
e) Manufacture of rubber;
f) Manufacture of peroxides; and
g) Production or processing of fertilisers.

4.3 Food

a) Factory for animal feed with production of 2000 ton/month;
b) Production of animal oils and fats (production equal or greater than 75 ton/day) and vegetable oils and fats (production equal or greater than 300 ton/month); and
c) Sugar mills, including the cultivation of the sugarcane.

4.4 Textile, tanning, wood and paper

a) Manufacture of paper and cardboard;
b) Cleaning, bleaching, mercerisation or dyeing of fibres and textiles;
c) Tanning factory; and
d) Facilities for production and treatment of cellulose.

4.5 Rubber

a) Manufacture and treatment of products based on rubber.

4.6 Extractive industry and complementary

a) Extraction and processing of ores;
b) Extraction, storage, transportation, processing and production of hydrocarbon derivates; and
c) Installations and industrial complexes, such as cement, steel and coking plants, and agricultural and cattle breeding complexes.

4.7 Energy

a) Hydroelectric power plants; thermal power stations; geothermal installations; nuclear power stations;
b) Facilities for underground and surface storage of fuel gas;
c) Processing and storage of radioactive waste;
d) Storage of liquid, fossil or solid fuels on the surface;
e) Industries of manufacture of briquettes, black coal and lignite with production capacity equal to or higher than 150 ton/day; and
f) 110 kV power transmission lines and of more than 10 km in length.

4.8 Treatment and disposal of solid and liquid waste

a) Places for disposal of municipal waste with a load greater than 500 tons per day;
b) Storage, transportation, treatment and disposal of dangerous industrial waste;
c) Storage, transportation, treatment and disposal of hospital waste of central, general and provincial hospitals; and
d) Facilities for the disposal or treatment of storm water and/or sewage with capacity for more than 150 000 inhabitants.

4.9 Areas of conservation

a) Creation of national parks, natural reserves, game reserves, areas of management of fauna and large conservation areas;
b) Commercial exploitation of natural fauna and flora; and
c) Introduction of exotic species of fauna and flora.

Appendix 10-2

Category B activities

The activities in this category differ from Category A mainly in the scale of the impacts. In general, they do not significantly affect human populations or environmentally sensitive areas. The negative impacts are of minor duration, intensity, extent, magnitude and/or significance compared to those of Category A projects, and few are irreversible. The impacts resulting from these activities allow the application of mitigation measures relatively easily, and these projects only require a SER.

All activities that do not appear in the Category A and C lists are, in principle, included in this category.

Appendix 10-3

Category C activities

These are activities for which the preparation of an Environmental Impact Report or SER is not normally necessary, since the negative impacts are negligible, insignificant, minimal or even non-existent. There are no irreversible impacts in this category, and the positive ones are clearly higher and more significant than the negative ones.

The following are included in this category:

a) Activities of automotive technical assistance;
b) Irrigation schemes with individual or cumulative area between 50 and 100 ha;
c) Hotels, motels, guest houses and hostels in towns and villages;
d) Creation of poultry batteries with capacity of between 1000 and 1500 poultry;
e) Transformation or removal of indigenous vegetation with areas between 100 and 200 ha without irrigation;
f) Broadcast transmitters of height less than or equal to 15 m;
g) Exploration for and use of underground water resources, including the production of geothermal energy, with extraction of more than 200 m^3/year;
h) Installation of equipment within already existing rail-port areas;
i) Consolidation of railway lines;
j) Rehabilitation of sundry fixed rail-port equipment;
k) Activities of construction of parking lots;
l) Wood processing mills;
m) Biscuits, dough, cookies and sweets factories;
n) Bakeries;
o) Fuel supply infrastructure;
p) Retreading of tyres;
q) Storage, treatment, transportation and disposal of hospital waste of health centres and posts and private clinics;
r) Fruit and flower preservation industries with production equal to or greater than 300 ton/day;
s) Manufacture of fibre panels, particles and plywood;
t) Animal feed production mills with production less than 1000 ton/month;
u) Water supply and sanitation systems, without conduits, treatment station and systems of effluent disposal;
v) Cashew nut processing mills;
w) Installation of fridges; and
x) Water purification units.

Appendix 10-4

Preliminary environmental information form

1. Name of the activity:

_____

2. Type of activity:

a) Tourist ☐ Industrial ☐ Agricultural and cattle breeding ☐ Other ☐

Specify_____

b) New ☐ Rehabilitation ☐ Expansion ☐

3. Identification of the proponent(s):

_____

_____

_____

4. Address/contact:

_____

_____

_____

5. Location of the activity:

5.1 Administrative location:

Quarter of_____ Village_____

City_____

Locality_____

District of _____

Province of_____

Geographical coordinates (GPS)_____

5.2 Zonation:

Urban ☐ Rural ☐

6. Fitting within the zoning:

Green housing space ☐ Industrial ☐ Service ☐

7. Description of the activity:

7.1 Describe the infrastructure associated with the activity, the dimensions and installed capacity (whenever possible, always attach the drawings and description of the activity):

_____

_____

7.2 Associated activities:

_____

_____

7.3 Brief description of the construction and operation technology:

_____

_____

7.4 Main and complementary activities:

_____

_____

7.5 Type, origin and quantity of labour force:

_____

_____

7.6 Type, origin and quantities of raw materials:

_____

_____

7.7 Scientific names of the chemical products to be used (if the list is long, an attachment should be produced):

_____

_____

7.8 Type, origin and quantity of water and energy consumption:

_____

_____

7.9 Origin and quantity of fuels and lubricating oils to be used:

_____

_____

7.10 Other necessary resources:

_____

_____

8. **Land ownership:**

_____

_____

9. **Alternative locations for the activity:**
(Reason for choosing the place for situating the activity and indicating at least two alternative sites)

_____

_____

10. **Brief information on the environmental situation at local and regional scales:**

10.1 Physical characteristics of the place for situating the activity:

Plain ☐ Plateau ☐ Valley ☐ Mountain ☐

10.2 Predominant ecosystems:

River ☐ Lake ☐ Sea ☐ Terrestrial ☐

10.3 Geographic area:

Coastal area ☐ Inland zone ☐ Island ☐

10.4 Type of predominant vegetation:

Forest ☐ Savannah ☐ Other ☐

Specify_____

10.5 Land use according to the structure plan or another policy in force:

Agricultural land ☐ Housing ☐ Industrial ☐

Protection ☐ Other ☐

Specify_____

10.6 Main existing infrastructure around the area of the activity:

_____

11. **Complementary information through maps:**

- Locality map (at a convenient scale)
- Suitability map showing project context (at a convenient scale)
- Other information deemed relevant.

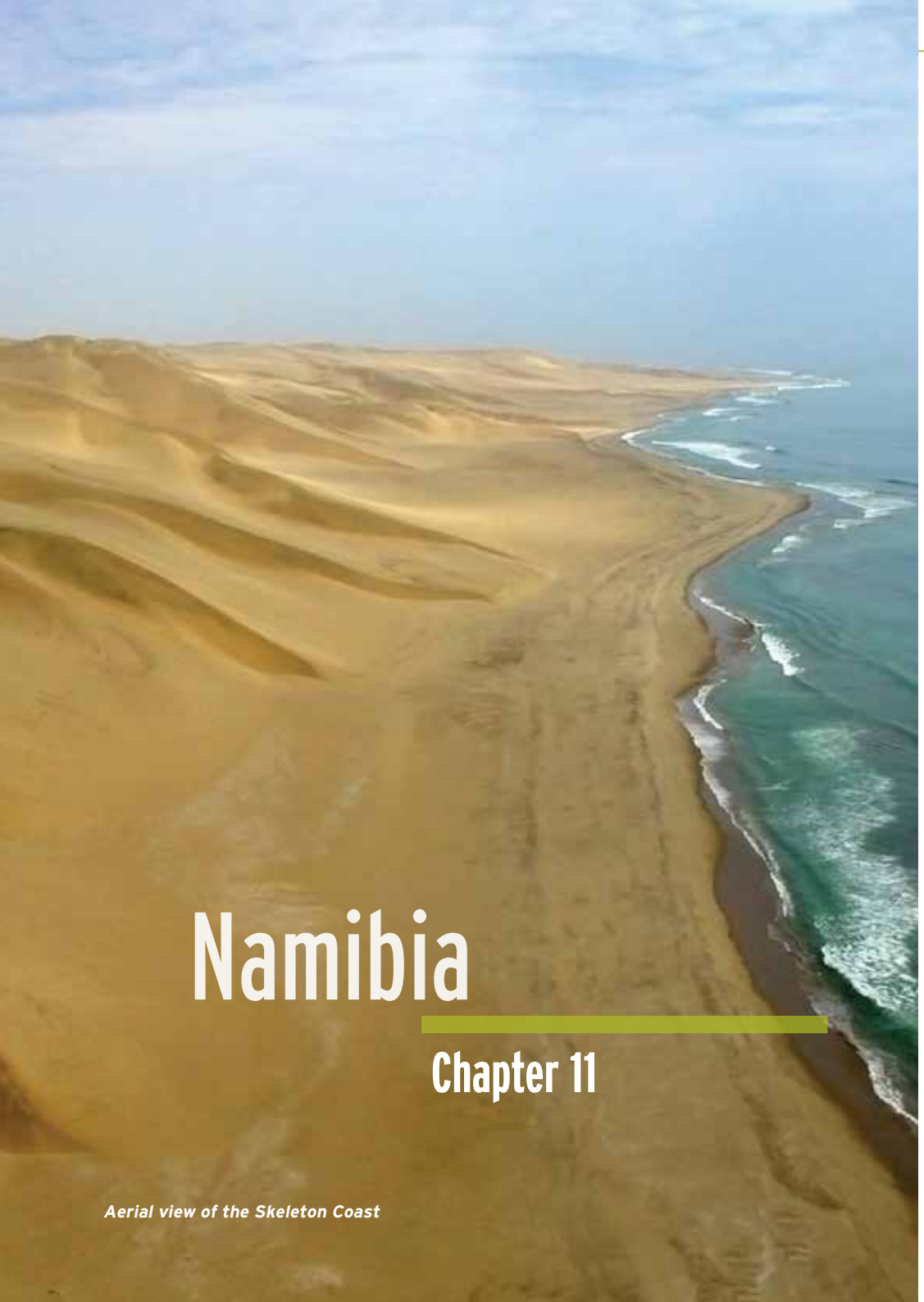
Maputo, this_____ day of_____of 20___.

Acronyms

ARA	Administração Regional de Águas (Regional Water Administration)
CNA	Conselho Nacional de Águas (National Water Council)
CV	curriculum vitae
DANIDA	Danish International Development Administration
DFID	Department for International Development
DPCA	Direção Provincial para a Coordenação da Acção Ambiental (Provincial Directorate for the Coordination of Environmental Action)
EIA	environmental impact assessment
EMP	environmental management plan
EPDA	Estudo de Pre-viabilidade e Definição do Âmbito (Environmental Pre-Viability Report and Scope Definition)
GIS	geographic information system
GPZ	Gabinete do Plano e. Desenvolvimento do Vale do Zambeze (Zambezi Valley Planning Office)
INP	Instituto Nacional de Petróleo (National Petroleum Institute)
MICOA	Ministério para a Coordenação da Acção Ambiental (Ministry for the Coordination of Environmental Action)
SADC	Southern African Development Community
SER	Simplified Environmental Report
TAC	Technical Assessment Commission
USAID	United States Agency for International Development

Useful contacts

Department	Ministry	Telephone	Fax	Website
Directorate for EIA	MICOA	+258 21 492403		www.micoa.gov.mz
IUCN Mozambique		+258 21 490599	+258 21 490812	www.iucn.org/places/mozambique



Namibia

Chapter 11

Aerial view of the Skeleton Coast

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Namibia

11.1 Constitutional requirements for environmental protection in Namibia

Since 1990, the government has adopted a number of policies that promote sustainable development. Most of these have their roots in the two clauses of the Namibian Constitution.[1] Article 91(c) defines the functions of the Ombudsman to include:

> *... the duty to investigate complaints concerning the over-utilisation of living natural resources, the irrational exploitation of non-renewable resources, the degradation and destruction of ecosystems and failure to protect the beauty and character of Namibia ...*

Article 95(l) commits the state to actively promoting and maintaining the welfare of the people by adopting policies aimed at the:

> *... maintenance of ecosystems, essential ecological processes and biological diversity of Namibia and utilisation of living natural resources on a sustainable basis for the benefit of all Namibians, both present and future ...*

11.2 Institutional and administrative structure for environmental impact assessment in Namibi

11.2.1 Ministry of Environment and Tourism

The Ministry of Environment and Tourism (MET) was established in 1990 and is responsible for safeguarding Namibia's environmental resources. Since then, MET has implemented far-reaching policy and legislative reforms in the environmental sphere in an attempt to alleviate many of the constraints that the environment places upon people and vice versa. These reforms were also aimed at encouraging various innovative, collaborative partnerships between important players in the environmental field, such as ministries with environmental interests within their areas of jurisdiction, non-governmental organisations, community-based organisations and donor agencies of various countries.

The mission of the MET is to maintain and rehabilitate essential ecological processes and life support systems, to conserve biological diversity, and to ensure that the utilisation of natural resources is sustainable for the benefit of all Namibians, both present and future, as well as the international community, as provided for in the Constitution.[2]

1 Republic of Namibia, 1990. *The Constitution of the Republic of Namibia*. Windhoek: Government of Namibia.
2 www.met.gov.na

The Ministry has five Directorates:
- Directorate of Administration and Support Services;
- Directorate of Environmental Affairs;
- Directorate of Parks and Wildlife Management;
- Directorate of Scientific Services; and
- Directorate of Tourism.

11.2.2 Directorate of Environmental Affairs

Currently, environmental impact assessments (EIAs) are guided and reviewed by the Directorate of Environmental Affairs (DEA) in the MET. The DEA has broad environmental responsibilities, including overseeing Namibia's compliance with various United Nations conventions and the implementation of a variety of programmes related to these conventions. The DEA is also in charge of pollution control and waste management, and overall coordination of environmental issues within the Namibian government.

The staff complement in the DEA is small, and the EIA unit currently has only three full-time government employees. The Environmental Management Act of 2007 envisages the creation of an Office of the Environmental Commissioner and a broader committee to be known as the Sustainable Development Advisory Council. Their respective envisaged roles are summarised below, but neither have yet been established.

11.2.3 Environmental Commissioner

The Environmental Commissioner will perform the following functions:
- Advise organs of state on the preparation of environmental plans.
- Receive and record applications for Environmental Clearance Certificates, and determine whether a listed activity requires an assessment.
- Determine the scope, procedure and methods of an assessment and then review the EIA report.
- Issue Environmental Clearance Certificates.
- Maintain a register of environmental assessments undertaken and the Environmental Clearance Certificates issued.
- Conduct inspections for monitoring compliance.

11.2.4 Sustainable Development Advisory Council

The main task of the Advisory Council is to promote cooperation and coordination between organs of state, non-governmental organisations, community-based organisations, the private sector and funding agencies on environmental issues relating to sustainable development. It will also advise the Minister on the following:
- The development of a policy and strategy for the management, protection and use of the environment;

- The conservation of biological diversity, access to genetic resources in Namibia, and the use of components of the environment in a way and at a rate that does not lead to the long-term decline of the environment, thereby maintaining its potential to meet the needs and aspirations of present and future generations;
- Appropriate methods of monitoring compliance; and
- The need for, and initiation or amendment of, legislation on matters relating to the environment.

11.3 Policy and legal framework for EIA

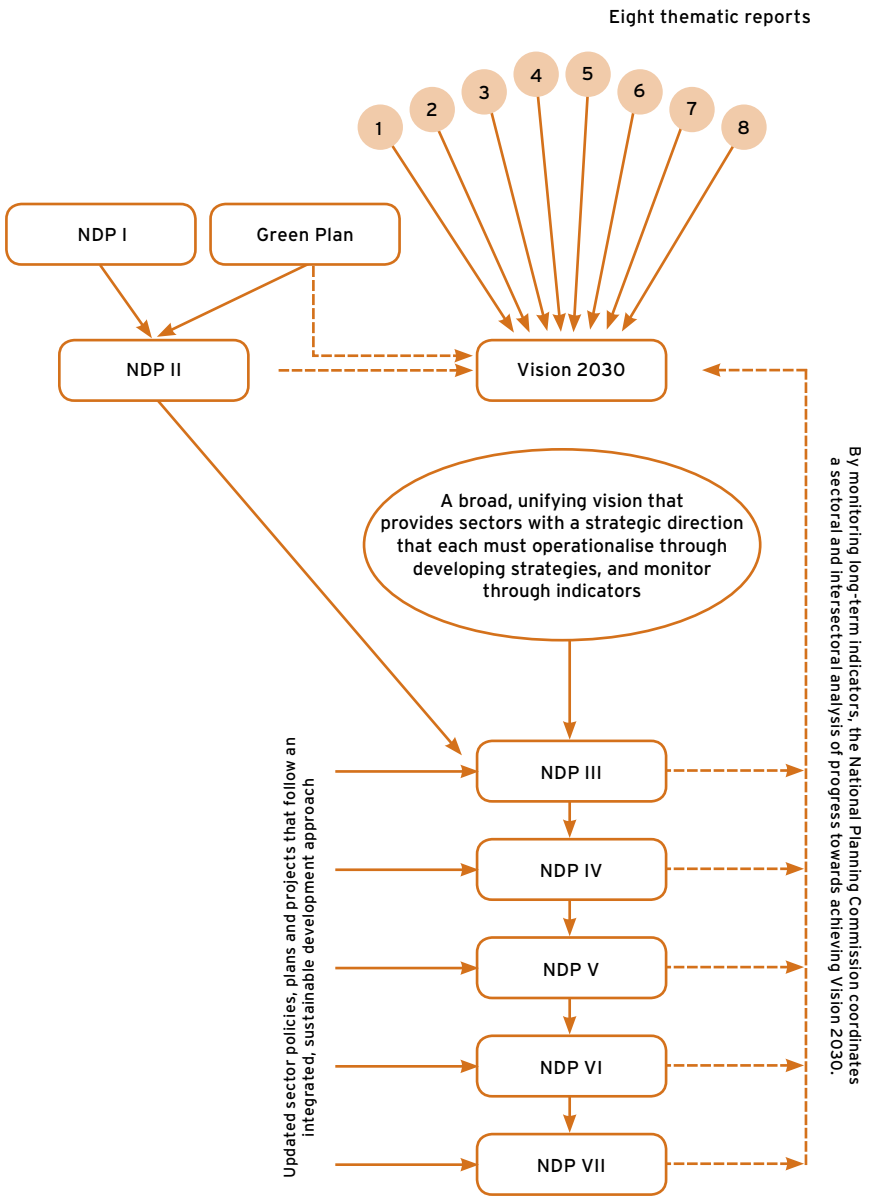
11.3.1 General environmental policies

In 1992, *Namibia's Green Plan* was drafted by the newly created MET and presented at the United Nations Conference on Environment and Development in Rio de Janeiro.[3] This document analysed the main environmental challenges facing Namibia and specified actions required to address them. Following on from the Green Plan, the MET formulated *Namibia's 12-point plan for integrated and sustainable environmental management,* a strategic document that set out the most important areas that needed to be developed to place Namibia on a sustainable development path.[4] These included:

- The need for policy formulation and debate;
- Legislative reform; and
- The identification of important programmes for gathering critical environmental information, spearheading new approaches for natural resource management, and developing local capacity.

3 Republic of Namibia, 1994a. *Namibia's Green Plan.* Windhoek: Directorate of Environmental Affairs, Ministry of Environment and Tourism.
4 Republic of Namibia, 1994b. *Namibia's 12-point plan for integrated and sustainable environmental management.* Windhoek: Directorate of Environmental Affairs, Ministry of Environment and Tourism.

Figure 11.1: Schematic representation of the links between National Development Plans, the Green Plan and Vision 2030



Based on the foundation laid by the Green Plan, an effort was made to incorporate environmental and sustainable development issues and options into Namibia's National Development Plans (NDPs), which run for a period of five years each. In addition, Vision 2030, which was formulated in 2001/02, aims to guide the country's development plans from NDP II through to NDP VII (see Figure 1), while providing direction to government ministries, the private sector, non-governmental organisations and local authorities.[5] Vision 2030 fully embraces the idea of sustainable development. For the natural resource sector, it states:

The nation shall develop its natural capital for the benefit of its social, economic and ecological well-being by adopting strategies that: promote the sustainable, equitable and efficient use of natural resources; maximize Namibia's comparative advantages; and reduce all inappropriate resource use practices. However, natural resources alone cannot sustain Namibia's long-term development, and the nation must diversify its economy and livelihood strategies.

11.3.2 Environmental Assessment Policy

A lengthy process of stakeholder consultation, begun in 1992, was followed during the development of Namibia's policy and legislation on EIA. Cabinet approved the Environmental Assessment Policy[6] in August 1994 and, in 1996, work began on drafting the Environmental Management Bill. The process of drafting the Bill was locally driven and highly consultative, making use of a series of workshops, focus group discussions and external review. The main difficulty faced in drafting the legislation was accommodating diverse sectoral interests, especially in the fields of land use planning, pollution control and waste management.[7] The Act was finalised and passed 15 years later, in 2007.

Namibia's Environmental Assessment Policy recognises that EIAs seek to ensure that the environmental consequences of development projects and policies are considered, understood and incorporated into the planning process. The term 'environment' is broadly interpreted to include biophysical, social, economic, cultural, historical and political components.

The Policy defines the required steps for an EIA, the required contents of an EIA report, the need for post-implementation monitoring, and the system of appeals. All these aspects have since been taken up in the subsequent Environmental Management Act (EMA) and the accompanying Regulations, which were drafted in response to the Environmental Assessment Policy.

5 NPC (National Planning Commission), 2001a. *Namibia Vision 2030 project: Technical report on inequalities and social welfare.* Unpublished report prepared for the NPC by the Social Impact Assessment and Policy Analysis Corporation (SIAPAC) Namibia.
6 MET (Ministry of Environment and Tourism), 1995. *Environmental Assessment Policy.* Windhoek: Directorate of Environmental Affairs.
7 Currently at least five ministries have some statutory responsibility for pollution control. In addition, local authorities (municipalities) have their own bylaws and yet another institutional layer for management. Each institution issues permits, carries out inspections, issues fines and sets standards, but since they are not obliged to coordinate or liaise with each other, enforcement is fragmented and often inadequate.

11.3.3 Environmental Management Act, No. 7 of 2007

The EMA defines EIA as a process of identifying, predicting and evaluating the significant effects of activities on the environment, as well as the risks and consequences of activities and their alternatives and options for mitigation, with a view to minimising negative impacts, maximising benefits, and promoting compliance with the principles of environmental management.[8]

Furthermore, the Act stresses the integrated nature of an EIA. It defines the term 'environment' as the complex of natural and anthropogenic factors and elements that are mutually interrelated and affect the ecological equilibrium and the quality of life, including land, water and air; all organic and inorganic material; all living organisms; as well as various components of the human environment. These include the landscape and the natural, cultural, historical, aesthetic, economic and social heritage and values. Thus, the Act does not foresee separate assessments for ecological, social, health or cultural components.

The EMA is in line with modern legislative trends, including:

- Adherence to the polluter pays principle;
- The inherent need to incorporate adequate provisions to achieve 'reduction-at-source' in the areas of pollution control and waste management;
- The need to consider alternatives and to avoid or minimise negative impacts wherever possible;
- The costs of EIAs being borne by the proponent, who is also responsible for ensuring that the EIA and the EIA report are of an acceptable standard;
- The need for a binding agreement between the proponent and government, based on the recommendations contained in the EIA report, that specifies how the environmental issues will be dealt with in project implementation; and
- The need for public participation in the EIA process.

The list of activities requiring an EIA in Part VII of the EMA is a guide, as the Minister may amend this list and the Environmental Commissioner may decide that an activity requires an EIA based on its expected environmental impacts even if the activity is not listed (Part VIII, section 32(1)(b)). The Environmental Commissioner will require the proponent to complete a Screening Checklist, which s/he will use to help determine whether an EIA is required or not.

8 Part I, section 1 of the EMA.

The activities requiring an EIA are listed in detail in Appendix 11-1, but broadly include:

- Land use and transformation;
- Water use and disposal;
- Resource removal, including natural living resources;
- Resource renewal;
- Agricultural processes;
- Industrial processes;
- Transportation;
- Energy generation and distribution;
- Waste and sewage disposal;
- Chemical treatment;
- Recreation; and
- Any other area that the Minister considers necessary for listing.[9]

11.3.4 Regulations

The MET has not yet finalised the Regulations to accompany the EMA. The draft Regulations specify the process requirements for undertaking assessments of policies, plans and programmes (strategic environmental assessment) and of projects (EIA), developing environmental management plans, and undertaking environmental monitoring.

In addition, they provide, inter alia, detail on the requirements for the contents of the EIA report and for public participation (stakeholder consultation).

11.3.5 Permits and licences

Before a developer can commence with an activity listed in Schedule 1 of the Regulations to the EMA (see Appendix 11-1 for the list), s/he must obtain a *Record of Decision* and a *Letter of Authorisation.*

However, the Letter of Authorisation from MET is not blanket permission to implement the project. The proponent is still required to obtain a sectoral licence or permit, depending on the nature of the envisaged project. For example, a mine will still need a *Mining Licence* from the Ministry of Mines and Energy, a *Water Abstraction Permit f*rom the Department of Water Affairs and a *Water Discharge Permit* if it will be releasing wastewater into any aspect of the environment. In most cases, sector ministries first consult the EIA report before considering the proponent's applications for permits.

9 Part VII, section 27(2) of the EMA.

11.3.6 Penalties

The draft Regulations state that any person who:

- Commences an undertaking without an Environmental Clearance Certificate, contrary to these Regulations;
- Fails to comply with directives of the competent authority to register an undertaking and obtain an Environmental Clearance Certificate, contrary to these Regulations;
- Fails to conduct an EIA for an undertaking specified in Schedule 1 to these Regulations before commencement of the undertaking, or as may be directed by the competent authority, contrary to these Regulations;
- Submits to or provides the competent authority with knowingly false information required under any provision of these Regulations;
- Fails to submit an environmental monitoring report as required under the Regulations; or
- Contravenes any provision of these Regulations,

commits an offence and is liable on summary conviction to a fine not exceeding N$100 000, to imprisonment for a term not exceeding one year, or to both and, in the case of a continuing offence, to a further fine not exceeding N$10 000 for each day the offence is continued.

11.3.7 Fees

The government does not charge any fees for guiding and reviewing EIAs, as it is assumed that government costs are already covered by the contribution of taxpayers and that new industries will broaden the tax base. However, the EMA makes provision for the government to insist that an EIA report is sent for external review at the cost of the proponent (section 45). The government may invoke this option if it is understaffed or if the nature of the project requires skills and knowledge not available within its own ranks. This has been happening informally for over a decade already, as many EIAs are reviewed externally for the above reasons. Experience over the past six years has shown that proponents are willing to pay for the costs of external review, in the belief that such reviews enhance the quality of their EIAs and thus reduce administrative delays.

11.3.8 Guidelines

A number of guidelines have been compiled to help improve EIA practice in Namibia. These include:

- Irrigation
- Mining
- Water sector projects.

11.3.9 Environmental standards

The drinking water guidelines are not standards, as no publication in the Government Gazette of Namibia exists to that effect. However, the Cabinet of the Transitional Government for National Unity adopted the existing South African Guidelines (461/85). These took effect from 1 April 1988 under the signature of the then Secretary for Water Affairs. After independence, the Government of the Republic of Namibia decided that, in the interim, the existing Guidelines will continue to be valid and remain in use until a proper study has been conducted and new standards have been formulated (Article 140 of Act No. 1 of 1990).[10] The standards that are in use are shown in Tables 11.1 to 11.4.

Table 11.1: Determinants with aesthetic or physical implications for drinking water

		Limits for groups[1]			
Determinant	**Units**	**A**	**B**	**C**	**D[2]**
Colour	mg/l Pt[3]	20			
Conductivity	mS/m at 25°C	150	300	400	400
Total hardness	mg/l $CaCO_3$	300	650	1 300	1 300
Turbidity	NTU[4]	1	5	10	10
Chloride	mg/l Cl	250	600	1 200	1 200
Chlorine (free)	mg/l Cl	0.1 - 5.0	0.1 - 5.0	0.1 - 5.0	0.1 - 5.0
Fluoride	mg/l F	1.5	2.0	3.0	3.0
Sulphate	mg/l SO_4	200	600	1 200	1 200
Copper	mg/l Cu	500	1 000	2 000	2 000
Nitrate	mg/l N	10	20	40	40
Hydrogen sulphide	µg/l H_2S	100	300	600	600
Iron	µg/l Fe	100	1 000	2 000	2 000
Manganese	µg/l Mn	50	1 000	2 000	2 000
Zinc	mg/l Zn	1	5	10	10
pH[5]	unit	6.0 - 9.0	5.5 - 9.5	4.0 - 11.0	4.0 - 11.0

1. Group A: Water with an excellent quality
   Group B: Water with acceptable quality
   Group C: Water with low health risk
   Group D: Water with a high health risk, or water unsuitable for human consumption.
2. All values greater than the figure indicated.
3. Pt: platinum units
4. NTU: nephelometric turbidity units
5. The pH limits of each group exclude the limits of the previous group.

10 www.mawrd.gov.na

Table 11.2: Inorganic determinants for drinking water

		Limits for groups (see Note 1 on Table 11.1)			
Determinant	**Units**	**A**	**B**	**C**	**D**
Aluminium	µg/l Al	150	500	1 000	1 000
Ammonia	mg/l N	1	2	4	4
Antimony	µg/l Sb	50	100	200	200
Arsenic	µg/l As	100	300	600	600
Barium	µg/l Ba	500	1 000	2 000	2 000
Beryllium	µg/l Be	2	5	10	10
Bismuth	µg/l Bi	250	500	1 000	1 000
Boron	µg/l B	500	2 000	4 000	4 000
Bromine	µg/l Br	1 000	3 000	6 000	6 000
Cadmium	µg/l Cd	10	20	40	40
Calcium	mg/l Ca	150	200	400	400
Calcium	mg/l $CaCO_3$	375	500	1 000	1 000
Cerium	µg/l Ce	1 000	2 000	4 000	4 000
Chromium	µg/l Cr	100	200	400	400
Cobalt	µg/l Co	250	500	1 000	1 000
Cyanide (free)	µg/l CN	200	300	600	600
Gold	µg/l Au	2	5	10	10
Iodine	µg/l I	500	1 000	2 000	2 000
Lead	µg/l Pb	50	100	200	200
Lithium	µg/l Li	2 500	5 000	10 000	10 000
Magnesium	mg/l Mg	70	100	200	200
Magnesium	mg/l $CaCO_3$	290	420	840	840
Mercury	µg/l Hg	5	10	20	20
Molybdenum	µg/l Mo	50	100	200	200
Nickel	µg/l Ni	250	500	1 000	1 000
Phosphate	mg/l P	1	See note below		
Potassium	mg/l K	200	400	800	800
Selenium	µg/l Se	20	50	100	100
Silver	µg/l Ag	20	50	100	100
Sodium	mg/l Na	100	400	800	800
Tellurium	µg/l Te	2	5	10	10
Thallium	µg/l Tl	5	10	20	20
Tin	µg/l Sn	100	200	400	400

Table 11.2: Inorganic determinants for drinking water *(continued)*

		Limits for groups (see Note 1 on Table 11.1)			
Determinant	**Units**	**A**	**B**	**C**	**D**
Titanium	µg/l Ti	100	500	1 000	1 000
Tungsten	µg/l W	100	500	1 000	1 000
Uranium	µg/l U	1 000	4 000	8 000	8 000
Vanadium	µg/l V	250	500	1 000	1 000

Note: The general guideline for a concentration level to be aimed at is 1 mg/l as P. But in many cases, this may be difficult to achieve technically. For this reason, the Department will allow a phosphate concentration level of up to 5 mg/l as P in water intended for human consumption.

Table 11.3: Bacteriological determinants for drinking water

	Limits for groups[1]			
Determinant	**A[2]**	**B[2]**	**C**	**D**
C Standard plate counts per 1 ml	100	1 000	10 000	10 000
Total coliform counts per 100 ml	0	10	100	100
Faecal coliform counts per 100 ml	0	5	50	50
Escherichia coli counts per 100 ml	0	0	10	10

1. All values greater than the figure indicated
2. In 95% of samples

Table 11.4: General standards for waste or effluent water discharge into the environment

Determinants	**Units**	**Maximum allowable levels**
Arsenic	mg/l As	0.5
Biological oxygen demand	-	-
Boron	mg/l B	1.0
Chemical oxygen demand	mg/l O	75
Chlorine (residual)	mg/l Cl_2	0.1
Chromium, hexavalent	µg/l Cr(VI)	50
Chromium, total	µg/l Cr	500
Copper	mg/l Cu	1.0
Cyanide	µg/l CN	500
Dissolved oxygen	%	At least 75% saturation[1]
Detergents, surfactants, tensides	mg/l as MBAS[2]	0.5
Fats, oil and grease	mg/l	2.5 (gravimetric method)
Fluoride	mg/l F	1.0
Free and saline ammonia	mg/l N	10
Lead	mg/l Pb	1.0
Absorbed oxygen	mg/l O	10
pH	units	5.5 - 9.5
Phenolic compounds	µg/l as phenol	100
Phosphate	mg/l P	1.0[3]
Sodium	mg/l Na	Not more than 90 mg/l > influent
Sulphide	mg/l S	1.0
Temperature	°C	35
Total dissolved solids	mg/l	Not more than 500 mg/l > influent
Total suspended solids	mg/l	25
Typical faecal coliforms	Per 100ml	0
Zinc	mg/l	5.0

1. In Windhoek, the saturation level is approximately 9 mg/l O^2.
2. The methylene blue active substances (MBAS) test does not cover all surface active compounds and, therefore, the limit given is only a guideline.
3. See note on phosphate attached to Table 11.2.

There are no ambient air quality or emission standards for Namibia, nor any specific standards for noise. Readers are referred to the World Health Organization standards.

11.3.10 Certification of environmental consultants

Currently, there is no requirement for environmental assessment practitioners to be certified or registered to practice in Namibia. However, the government is interested in establishing a certification system for environmental assessment practitioners, and has held a workshop with interested parties to discuss the need for such a system. It is expected that the establishment of a certification system will be considered in the near future.

The EMA does not require the EIA consultants to be independent of the proponent.

11.4 EIA procedural framework in Namibia

11.4.1 Project-level EIA

The Act stipulates that any proposal for an activity stipulated in Schedule 1 (see Appendix 11-1) must be accompanied by a completed environmental questionnaire when it is submitted to the relevant ministry or authority. If this authority intends permitting the activity, it liaises with the Commissioner and together they decide if an EIA is required or not. This decision is based on their collective judgement of the nature and significance of the impacts

the activity is likely to cause. In the event that an EIA is not required, the Commissioner issues an Environmental Clearance (with or without conditions) and the activity may commence once the relevant authority has approved it.

The Act provides opportunities for public comment and hearings in addition to the requirement that interested and affected parties be consulted during the EIA. The specific requirements will be spelled out in the forthcoming Regulations.

The EIA process in Namibia is relatively straightforward and conforms to generally accepted international norms (see Figure 11.2).

11.4.2 Authority review of EIA reports

Officials in the DEA currently review EIA reports, but this task will rest with the Office of the Environmental Commissioner, once established. An Environmental Clearance Certificate is only issued after the review has been completed and the MET is satisfied that the project is environmentally acceptable. Usually, the Environmental Commissioner will confer with the line ministry under whose jurisdiction the project is proposed. In some cases, the EIA report is subject to a public hearing and may also be sent to an independent expert or panel for an external review, especially if the project is controversial or the EIA is very technical. Article 45 of the EMA entitles the government to recover the costs of external review from the proponent.

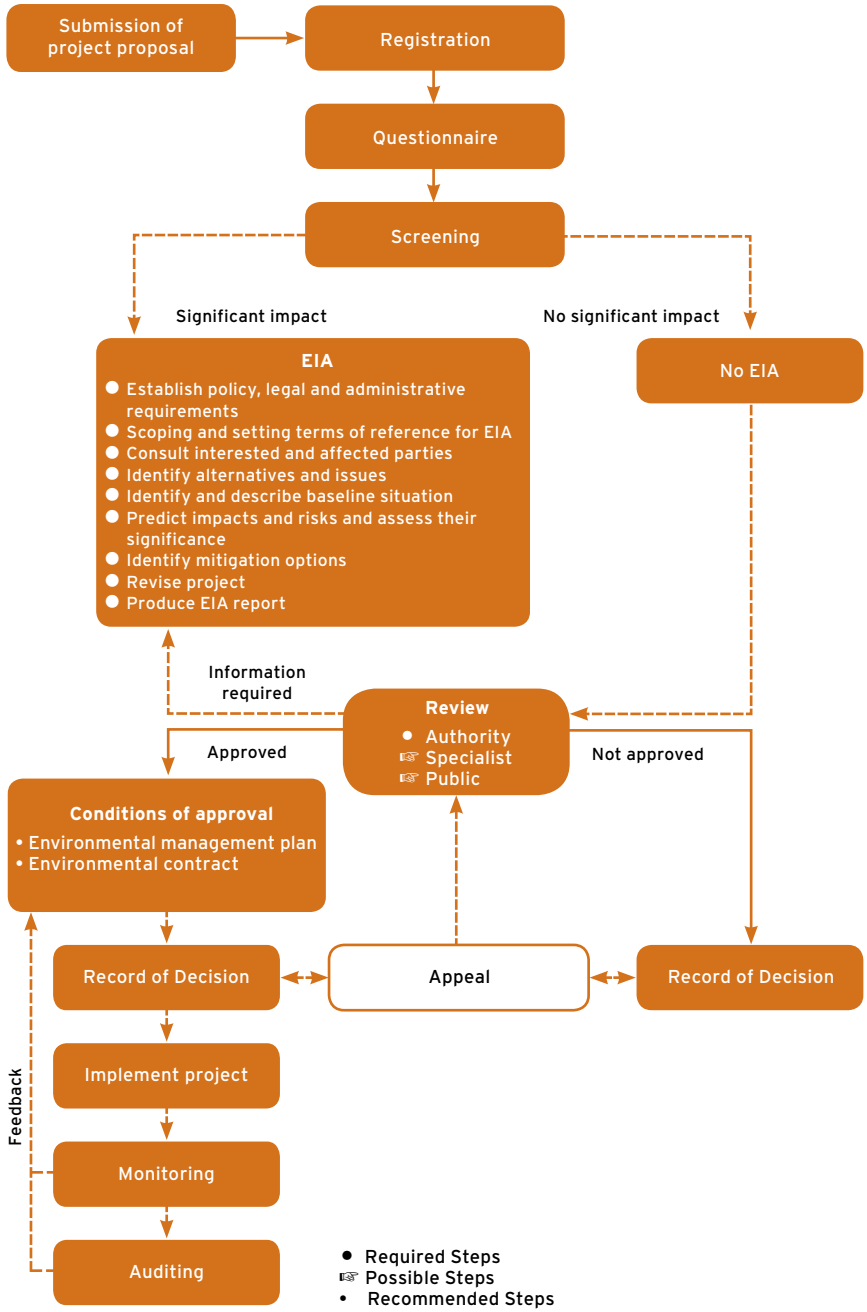
After reviewing the EIA report, the Environmental Commissioner may either:

- Grant the application and, on payment of the prescribed fee, issue an Environmental Clearance Certificate to the proponent.
- Refuse the application and provide the proponent with reasons for the refusal.

Article 38 of the EMA requires that the Record of Decision be kept in the prescribed form and be made available for public inspection at the Office of the Environmental Commissioner.

The EMA does not explicitly require the proponent to develop an environmental management plan, but this is implied by the fact that the Environmental Commissioner can prescribe conditions as part of the Environmental Clearance Certificate. Given that the certificate is valid for a maximum of three years, an environmental management plan would need to be revised at least every three years. It is the norm in Namibia for EIAs to lead to the development of an outcomes-based environmental management plan, which becomes the 'implementation manual' for projects.

Figure 11.2: EIA process flowchart for Namibia



11.4.3 Appeals

Provision is made in sections 50 and 51 of the Act for a simple appeal process. In terms of this process, any person can appeal a decision taken by the Environmental Commissioner to the Minister of MET, and if this does not resolve the issue, a decision by the Minister can be appealed in the High Court.

11.4.4 Environmental auditing

Environmental auditing is not yet common practice in Namibia, though a few audits have been done. Most audits have been because of a property transfer (e.g. a mine), where the new owners require specific information on the extent to which they are liable for environmental impacts that have occurred or are likely to occur in the future. Most audits have been conducted by independent consultants. The Act does not specify the need for audits.

11.4.5 Inspections and monitoring

Section 17 of Part V of the EMA empowers the Environmental Commissioner to conduct inspections to monitor compliance with the Act and with conditions stipulated in the Environmental Clearance Certificate. The Environmental Commissioner may be assisted in this task by Environmental Officers (who could be consultants appointed specifically in this role) and/or the police. This provision provides a way of overcoming current capacity constraints in MET. However, post-implementation monitoring is seldom undertaken in Namibia, although ad hoc inspections occur if there is controversy about a specific project.

If monitoring and/or inspections reveal that a developer is not abiding by the conditions of the Environmental Clearance Certificate or has contravened the EMA, the Environmental Commissioner has the power to suspend or cancel the Certificate for a period s/he may determine. The certificate can be reinstated once the Environmental Commissioner is satisfied that the person concerned has rectified the failure that led to the suspension.

11.4.6 Strategic environmental assessment

Given that government agencies are the main institutions likely to initiate the development of a policy, plan or programme, they are obligated to appoint a qualified environmental assessment practitioner to determine whether a policy, plan or programme is likely to have significant environmental effects. As is the case with project-level EIA, public consultation is required and a strategic environmental assessment report must be compiled. This is evaluated by the Office of the Environmental Commissioner (with or without specialist support) and a clearance is issued or denied, as the case may be.

11.5 Other relevant environmental legislation in Namibia

A number of sector laws in Namibia are relevant to EIA. The following table provides a summary of the relevant sector legislation.

Table 11.5: Other potentially applicable sectoral requirements

Sector	Primary agency	Title and date of document	Purpose
Water resources	Ministry of Agriculture, Water and Rural Development	Water Resources Management Act, No. 24 of 2004	The Act provides for the management, development, protection, conservation and use of water resources, and established various regulatory and advisory institutions. Section 78 specifies the permission required if a person wishes to block a watercourse.
Air pollution and noise	Ministry of Health and Social Services	Atmospheric Pollution Prevention Ordinance, No. 11 of 1976	Air pollution is controlled primarily by this Ordinance, which deals with air pollution as it affects occupational health and safety issues if these are the subject of one of the conditions of a registration certificate issued under the Ordinance. It considers air pollution from point sources but does not address ambient air quality.
Waste management	MET and others	Pollution Control and Waste Management Bill (in preparation)	The purpose of this Bill is to regulate and prevent the discharge of pollutants to the air and water, and enable the country to fulfil its international obligations in this regard. With respect to water pollution, the draft Bill forbids any person from discharging or disposing of pollutants into any water or watercourse without a Water Pollution Licence, aside from the discharge of domestic waste from a private dwelling or the discharge of pollutants or waste to a sewer or sewage treatment works.

Table 11.5: Other potentially applicable sectoral requirements *(continued)*

Sector	Primary agency	Title and date of document	Purpose
Waste management *(continued)*			The Bill requires that the application for a Water Pollution Licence must be accompanied by details of the activity to which the application relates, including the nature and location of the activity and its actual and potential effects on the environment. Members of the public must be given the opportunity to comment on all licence applications. The inspectors who will be appointed for the purposes of this Bill will have wide-ranging powers, including the power to enter and search any premises or vehicle without a warrant or court order, and to collect evidence as required.
Health	Ministry of Health and Social Services	Public Health Act, No. 36 of 1919, with subsequent amendments	This Act is only relevant in as much as workers must be protected from harm, especially during construction.
Planning and zoning	National Planning Commission		The National Planning Commission is important because it theoretically coordinates all development in the country, especially capital projects. It does not issue authorisations or permits, but needs to be involved in decision-making processes.
Mining and mineral resources	Ministry of Mines and Energy	Minerals (Prospecting and Mining) Act, 2003	This Act controls all mining activity in Namibia. Mineral rights are vested in the state, and companies or individuals are required to apply to the Ministry for licences to explore and mine mineral deposits.
Waste management *(continued)*			Following Cabinet approval and Parliament endorsement of the Minerals Policy of 2003, a new Minerals Bill is being prepared, which introduces requirements for financial guarantees for the reparation of environmental damage and the setting up of trust funds for rehabilitation after mine closure. Specification of these requirements will be contained in Regulations yet to be drafted. Penalties for non-compliance will also be included.
Petroleum exploration and production	Ministry of Mines and Energy	Petroleum (Exploration and Production) Act, No. 2 of 1991, as amended	The Act stipulates that all rights in relation to exploration for the production and disposal of petroleum vests in the state. The Act states in Article 12 that in considering a licence application, the Minister may require the applicant to carry out environmental impact studies. It provides for the issuing of licences for reconnaissance, exploration and production of petroleum and, in Article 71, for the control of environmental pollution caused by such activities. In accordance with the Act, a Petroleum Agreement is established between the Government of Namibia (Ministry of Mines and Energy) and the licence applicant. Clause 11 of such a Petroleum Agreement deals with environmental protection and binds the licence holder to all provisions contained in the Act, as well as to fairly stringent environmental requirements:
Marine pollution	Ministry of Works, Transport and Communication	Prevention and Combating of Pollution of the Sea by Oil Act, 1981, and the Amendment Act, No. 24 of 1991	This Act provides a framework for the prevention and combating of pollution of the sea by oil and for determining liability in respect of loss or damage caused by the discharge of oil from ships, tankers or offshore installations. It is the enabling legislation for the International Convention for the Prevention of Pollution from Ships (Marpol 73/78) signed and ratified by Namibia, but is limited to oil pollution.

Table 11.5: Other potentially applicable sectoral requirements *(continued)*

Sector	Primary agency	Title and date of document	Purpose
Marine pollution	Namibia Port Authority	Namibian Ports Authority Act, No. 2 of 1994	In terms of this Act, the Namibian Ports Authority (Namport) is responsible for 'protecting the environment' within its demarcated area of control. Although open-ended, the Act does afford Namport the power to monitor and regulate activities within the ports and adjacent bays. However, there may be uncertainty about who is responsible for enforcing this, as the Ministry of Fisheries and Marine Resources has overall responsibility for all living marine resources, and the Ministry of Agriculture, Water and Rural Development has responsibility for water quality and marine pollution from land-based sources.
Conservation	MET	Nature Conservation Ordnance, 1975	This outdated Ordnance will be replaced by the Parks and Wildlife Bill, which includes provisions to declare protected areas and protect against alien species. The new legislation will, inter alia, enable the proclamation of nature reserves and generally improve the conservation of biodiversity in Namibia.
Agriculture and forestry	Ministry of Agriculture, Water and Rural Development	Forestry Act, 2001	This Act enables the state to declare forest reserves, some which may be managed by communities. It also regulates the trade in forest products and has some reference to EIA requirements (mostly regarding de- or reforestation projects)
		Various policies and laws	The various policies and laws are sector-specific (e.g. pest control and livestock diseases).
Land and resettlement	Ministry of Lands, Resettlement and Rehabilitation	Agricultural (Commercial) Land Reform Act, 1995	This Act enables the redistribution of freehold land to the previously disadvantaged under the willing seller, willing buyer principle. Problematic issues include the unclear definition and interpretation of *'underutilised'* land and *' economic unit'.*
		Communal Land Reform Act, 2002	The Act aims to improve the use of communal land and to reduce irregularities and constraints regarding livelihood strategies. Issues addressed are: • Fencing (which is illegal); • Land degradation and impacts from prospecting, mining, roadworks and the use of water resources; • Allocation of land; and • Institutional arrangements.
Fisheries	Ministry of Fisheries and Marine Resources	Marine Resources Act, 2000	The Act governs the exploitation and conservation of marine resources and specifies governance issues relating to the issuing of licences, etc. It is not strong on EIA issues.
		Inland Fisheries Resources Act, No. 1 of 2003	The Act governs the exploitation and conservation of freshwater resources and specifies governance issues relating to the issuing of licences, etc. It is not strong on EIA issues. The Act makes allowance for community-based management.
		Aquaculture Act, No. 18 of 2002	The Act promotes aquaculture but ignores the environmental impacts associated with fish farming (e.g. over-enrichment of water due to a build-up of fish faeces, and water pollution from harmful algal blooms) and how these would be prevented.
Roads	Ministry of Works, Transport and Communication		The Ministry is responsible for establishing and maintaining the national roads network.
Transmission	Ministry of Mines and Energy	See Energy.	See Energy.

Table 11.5: Other potentially applicable sectoral requirements *(continued)*

Sector	Primary agency	Title and date of document	Purpose
Archaeological, historical and cultural	Ministry of Education and Culture	National Monuments Act, No. 28 of 1969 National Heritage Act, No. 27 of 2004	The Act enables the proclamation of national monuments and protects archaeological sites. The Act extends the protection of archaeological and historical sites to private and communal land, and defines permit procedures regarding activities at such sites.
Local government	Ministry of Regional and Local Government and Housing	Regional Councils Act, No. 22 of 1992, amended in Act No. 24 of 2000 Local Authorities Act, No. 23 of 1992 Traditional Authorities Act, 1995	Reference to these Acts is included because traditional and regional authorities have a say in how land is allocated. This has implications for an EIA process in that these structures must be consulted and the correct protocol must be followed.

Appendix 11-1

List of activities requiring an environmental assessment

The following list shall act as a guide for the Environmental Commissioner. When the scale of activities is not provided or is unknown, it is up to the Commissioner to use his/her discretion as to whether they should be subject to EIA.

1. Construction and related activities

a) The erection or construction of facilities for the commercial generation of electricity with an output of more than *1 MW;*
b) The erection or construction of facilities for the commercial transmission and supply of electricity, with the exception *of power supply lines of less than 2 km in length;*
c) The erection, construction or upgrading of nuclear reactors and installations for the production, enrichment, reprocessing and disposal of nuclear fuels and wastes;
d) The erection, construction or upgrading of manufacturing, storage, handling or processing facilities for any hazardous substance, including transportation routes, structures and facilities connected therewith (for purposes of this clause, 'hazardous substance' means any substance declared as a hazardous substance in terms of section 3(1) of the Hazardous Substances Ordinance, No. 14 of 1974, or in terms of any other law relating to the control of hazardous substances);
e) The construction of public roads;
f) The construction or upgrading of railways and harbours and associated structures;
g) The construction or upgrading of airports, airfields and associated structures;
h) The erection or construction of any structure below the high-water mark of the sea;
i) The erection or construction of any structure associated with aquaculture activities, where such structures are not situated within an aquaculture development zone declared in terms of section 33 of the Aquaculture Act, No. 18 of 2002;
j) The erection or construction of cableways and associated structures;
k) The erection or construction of communication networks, including towers, telecommunication lines and cables, as well as structures associated therewith, including roads;
l) The erection or construction of motor vehicle and motorcycle racing and test tracks;

m) The construction of canals and channels, including the diversion of the normal flow of water in a riverbed and water transfer schemes between water catchments and impoundments;
n) The construction of dams, reservoirs, levees and weirs;
o) The erection and construction of tourism facilities and associated structures, including all-wheel drive trails or activities related to tourism that may have a significant effects on the environment;
p) The erection and construction of sewage treatment plants and associated infrastructure;
q) The erection and construction of buildings and structures for manufacturing, processing or industrial or military activity;
r) The erection and construction of veterinary, protected area, or game proof and international boundary fences;
s) The erection and construction of waste sites, including any facility for the final disposal or treatment of waste;
t) The erection and construction of oil refineries; and
u) The construction of oil, water, gas, petrochemical and other bulk supply pipelines.

2. Land use planning and development activities

a) The rezoning of land from:
   i. Residential use to industrial or commercial use;
   ii. Light industrial use to heavy industrial use;
   iii. Agricultural use to industrial use; and
   iv. Use for nature conservation or zoned open space to any other land use;
b) Reclamation of land from below or above the high-water mark of the sea or associated inland waters;
c) Alteration of natural wetland systems;
d) Any activity entailing a scheduled process referred to in the Atmospheric Pollution Prevention Ordinance, No. 11 of 1976;
e) The establishment of resettlement schemes; and
f) The declaration of an area as an aquaculture development zone in terms of section 33 of the Aquaculture Act, No. 18 of 2002.

3. Resource extraction, manipulation, conservation and related activities

a) Prospecting, quarrying, mining, mineral extraction or mineral beneficiation activity;
b) The farming, importation, release or contained use of any genetically modified organism, plant or animal species that may have a significant impact on the environment;
c) The genetic modification of any organism with the purpose of fundamentally changing the inherent characteristics of that organism;

d) The abstraction of ground- or surface water for industrial or commercial purposes; and
e) Clearance of forest areas, reforestation and afforestation.

4. Other activities

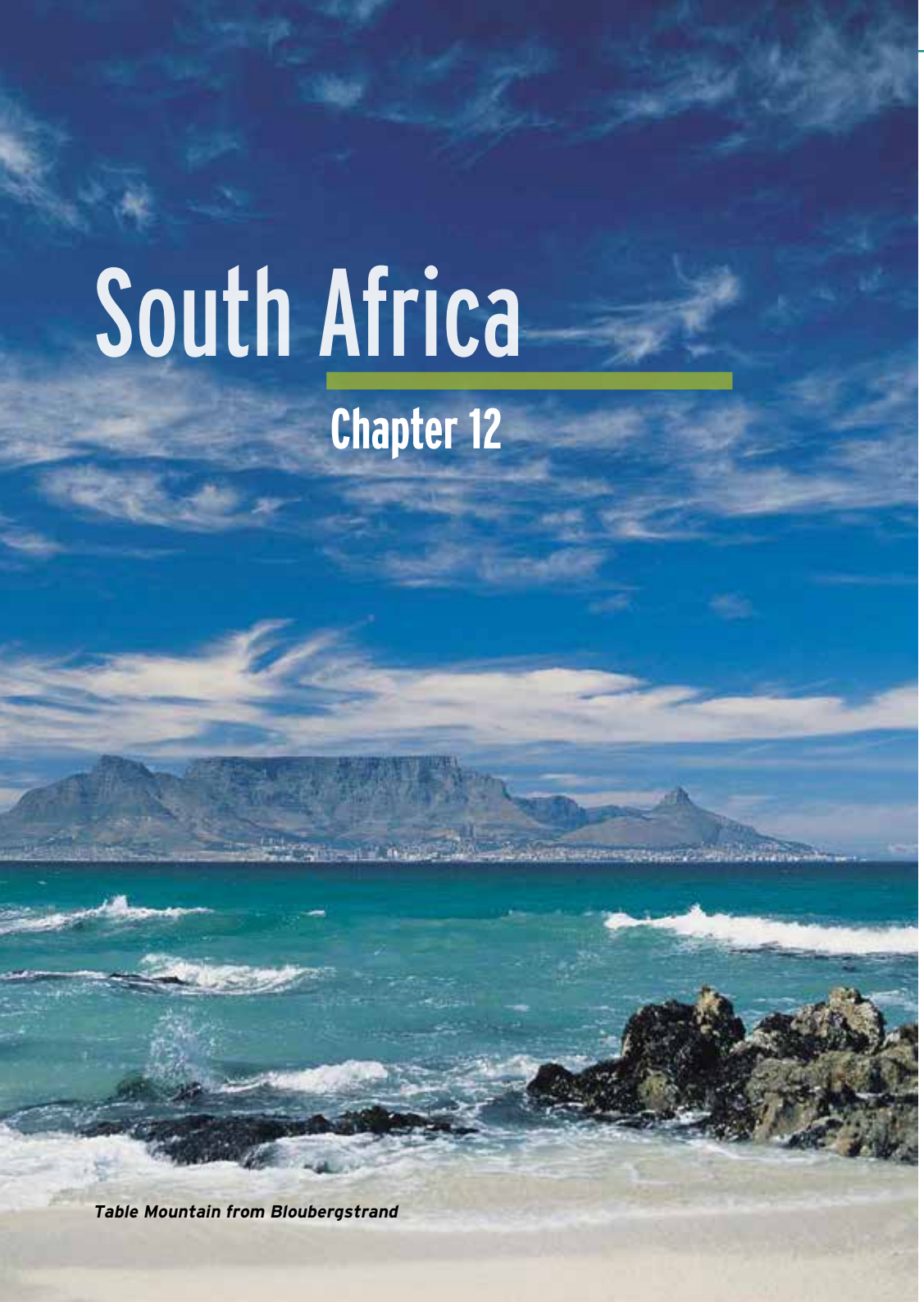
a) Pest control programmes;
b) The import, processing and transit of genetically modified organisms;
c) The import, processing, transit or export of waste; and
d) Any such other undertaking as the Minister may from time to time determine.

Acronyms

DEA	Directorate of Environmental Affairs
EIA	environmental impact assessment
EMA	Environmental Management Act
Marpol	International Convention for the Prevention of Pollution from Ships
MET	Ministry of Environment and Tourism
Namport	Namibian Ports Authority
NDP	National Development Plan

Useful contacts

Department	Ministry	Telephone	Fax	Website
Directorate of Environmental Affairs	Ministry of Environment and Tourism	+264 61 284 2185	+264 61 232057	www.met.gov.na



South Africa

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South Africa

12.1 Constitutional requirements for environmental protection in South Africa

The Government of South Africa is constituted as having national, provincial and local spheres that are distinct but interdependent and interrelated. The Constitution allocates legislative and administrative functions to all three spheres of government, giving a wide range of government agencies responsibility for environmental management.[1]

Environmental provisions are included in the Bill of Rights in Chapter 2 of the Constitution of South Africa Act, No. 108 of 1996. In terms of section 24 of the Act, everyone has the right:

a) to an environment that is not harmful to their health or well-being; and
b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that:
   - prevent pollution and ecological degradation;
   - promote conservation; and
   - secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

The Bill of Rights in Chapter 2 of the Constitution entrenches the right to information; the right to freedom of expression; the right to participate in political activity; the right to administrative justice; and fundamental science, cultural, legal, economic and environmental rights. In addition, the Constitution requires all legislatures to facilitate public involvement in the legislative and other policy processes. Citizens have the right to engage in public initiatives and processes on an ongoing basis.

12.2 Institutional and administrative structure for environmental impact assessment in South Africa

12.2.1 Department of Environmental Affairs

Following the national elections in 2009, the administration of environmental matters has been restructured: the former Department of Environmental Affairs and Tourism has been split and the environmental affairs component has been joined with water under the direction of the Minister of Water and Environmental Affairs. Within this new ministerial function, there are two autonomous departments, namely, the Department of Water Affairs (DWA) and the Department of Environmental Affairs (DEA). The DEA remains responsible for environmental impact assessment (EIA) at both national and provincial levels. Policy formulation and coordination takes place at national level, while approval of EIAs for most development proposals has been devolved to the provinces.

The National Environmental Management Act (NEMA), No. 107 of 1998, makes provision for two advisory and coordinating bodies to be established: the National Environmental Advisory Forum and the Committee for Environmental Coordination.

National Environmental Advisory Forum

The NEMA makes provision in Part 1 of Chapter 2 for the establishment of the National Environmental Advisory Forum. The aim of the Forum, which was established in 2005, is to advise the Minister on any matter concerning environmental management and governance, specifically the setting and achievement of objectives and priorities for environmental governance, and appropriate methods of monitoring compliance with the principles set out in section 2 of the Act (see section 12.3.2 of this Handbook). The Forum will also inform the Minister of the views of the stakeholders on the application of the principles set out in section 2 of the Act.

Committee for Environmental Coordination

Part 2 of Chapter 2 of NEMA also makes provision for the formation of a Committee for Environmental Coordination to promote the integration and coordination of environmental functions by the relevant organs of state and, in particular, to promote the purpose and objectives of environmental management plans. The Committee has not yet been constituted.

12.2.2 Roles and responsibilities

National Department of Environmental Affairs

As noted above, most EIAs for development projects must be submitted to the responsible provincial departments, as the competent authorities, with the exception of the following instances, when the Minister takes on the role of the competent authority:[2]

- When the project has implications for national environmental policy or international commitments or relations (e.g. if the project will have an impact in terms of the Southern African Development Community (SADC) Shared Water Resources Protocol or Ramsar obligations);
- If the project will take place within an area identified as a special geographic area as a result of the state's obligations in terms of any international environmental instrument, other than any area falling within the seashore,

1 Republic of South Africa, 1996. *Constitution of South Africa*. Pretoria: Government Printer.

2 Section 24(C)(2) of the National Environmental Management Second Amendment Act of 2004.

a conservancy, a protected natural environment, a proclaimed private nature reserve, a natural heritage site, or the buffer zone or transitional area of a biosphere reserve or a world heritage site;
- If the project will affect more than one province or traverse international boundaries (e.g. if a dam for a hydroelectric scheme were to flood areas in two or more provinces);
- When the project is to be undertaken by a national department, a provincial department of environmental affairs, or a statutory body performing an exclusive competence of the national sphere of government, such as Eskom; and
- If the project is situated within a national proclaimed protected area or other conservation area under control of a national authority.

In addition, the national DEA, being the lead agent for environmental management, is responsible for:
- Developing and enforcing compliance with environmental policy;
- Developing and implementing an integrated and holistic environmental management system;
- Coordinating and supervising environmental functions in all spheres of government; and
- Developing and enforcing an integrated and comprehensive regulatory system.

Until now, mining authorisations, including Environmental Authorisations for mining, were issued under the Minerals and Petroleum Resources Development Act (MPRDA), No. 28 of 2002, and the DEA was merely a commenting agency. However, this is undergoing a three-stage process of change in terms of the new provisions in the National Environmental Management Amendment Act, No. 62 of 2008, and corresponding amendments to the MPRDA (still in progress). The three stages are:

Phase 1: The status quo will remain until the MPRDA amendments come into effect.

Phase 2: For a period of 18 months after the MPRDA amendments have come into effect, all new mining, exploration and production rights applications and renewals thereof will have to comply with the NEMA EIA Regulations, but the competent authority will remain the Minister of Mineral Regulation. However, the Minister for Water and Environmental Affairs would hear any appeals.

Phase 3: Thereafter, it is proposed that the DEA becomes the competent authority, but this is still under negotiation between the respective departments.

Provincial departments

In terms of section 42(1) of the National Environmental Management Amendment Act of 2003, the Minister of Water and Environmental Affairs can designate the provinces as competent authorities, empowering them to authorise development activities in terms of the EIA Regulations. The provinces may, in turn, devolve this competency to their local authorities, as provided for in section 42A(1)(c) of the National Environmental Management Amendment Act of 2003. In most provinces, the administration function for EIA is located within portfolios dealing with natural resource management, rural development, tourism, conservation, economic development or agriculture. The provincial departments are as follows:

Eastern Cape:	Department of Economic Development and Environmental Affairs
Free State:	Department of Economic Development, Tourism and Environmental Affairs
Gauteng:	Department of Agriculture and Rural Development
KwaZulu-Natal:	Department of Agriculture, Environmental Affairs and Rural Development
Limpopo:	Department of Economic Development, Environment and Tourism
Mpumalanga:	Department of Economic Development, Environment and Tourism
Northern Cape:	Department of Environmental Affairs and Nature Conservation
North West:	Department of Economic Development, Environment, Conservation, and Tourism
Western Cape:	Department of Environmental Affairs and Development Planning.

In terms of the new EIA Regulations (see section 12.3.3), the authorities are required to perform a number of functions within certain timeframes. The main obligations of the provincial departments are as follows:
- Provide the applicant with any relevant guidelines and information.
- Advise the applicant on the nature and processes that must be followed in order to comply with the Act and Regulations.
- Consult with other competent authorities and other organs of state to avoid duplication of effort.
- Receive and acknowledge receipt of applications within the stipulated timeframe (see Table 12.1).

Table 12.1: Decision-making timeframe for Basic Assessments and EIAs

Decision and/or action required by authorities	Timeframe for Basic Assessment Reports (days)	Timeframe for EIAs (days)
Acknowledge receipt of application	14	14
Review application and make a decision to grant authorisation	30	30 days for scoping report 60 days for EIA report 45 days to grant authorisation*
Extension if decision-making timeframe is missed	*60*	*60*
Review additional information (if required) and make a decision	*30*	*30 days for scoping report* *60 days for EIA report*
Notify the applicant of the decision	2	2
Minimum days required (if all information is provided first time, the competent authority meets the timeframe and no review is required)	**46**	**106**

* If the report was sent for specialist review, 45 days are allowed to grant authorisation from the date of receipt of the review report.

- When considering an application, the competent authority must ensure that the application complies with the formal requirements of the Regulations and the requirements set out in sections 24(0) and 24(4) of the NEMA.
- The competent authority must review the application within the stipulated timeframe (see Table 12.1) and make a decision in writing:

a) Requesting additional information before an informed decision can be made;
b) Granting authorisation in respect of all or part of the activity applied for; or
c) Refusing authorisation in respect of all or part of the activity.

- After the competent authority has reached a decision on an application, it must, in writing and within *two days:*[3]

a) Notify the applicant of the decision;
b) Give reasons for the decision to the applicant; and
c) Draw the attention of the applicant to the fact that an appeal may be lodged against the decision.

- If the competent authority grants an Environmental Authorisation, it must contain the following information:[4]

a) The name, address and telephone number of the person to whom the authorisation is issued;
b) A description of the activity that is authorised;
c) A description of the property on which the activity is to be undertaken and the location of the activity on the property, or if it is:
   i. A linear activity, a description of the route of the activity; or
   ii. An ocean-based activity, the coordinates within which the activity is to be undertaken;
d) The conditions subject to which the activity may be undertaken, including conditions determining:
   i. The period for which the Environmental Authorisation is valid, if granted for a specific period;
   ii. Requirements for the management, monitoring and reporting of the impacts of the activity on the environment throughout the life cycle of the activity; and
   iii. The transfer of rights and obligations when there is a change of ownership in the property on which the activity is to take place;
e) Where applicable, the manner in which and when the competent authority will approve the environmental management programme (EMP); and
f) The requirements on the manner in which and the frequency with which the EMP will be approved, amended or updated.

- An Environmental Authorisation may:[5]

a) Provide that the authorised activity may not commence before specified conditions are complied with;
b) Require the holder of the authorisation to furnish the competent authority with reports prepared by the holder of the authorisation or a person who is independent, at specified times or intervals:
   i. Indicating the extent to which the conditions of the authorisation are or are not being complied with;
   ii. Providing details of the nature of, and reasons for, any non-compliance with a condition of the authorisation; and
   iii. Describing any action taken, or to be taken, to mitigate the effects of any non-compliance or to prevent any recurrence of the non-compliance;
c) Require the holder of the authorisation to furnish the competent authority with environmental audit reports on the impacts of the authorised activity on the environment, at specified times or intervals or whenever requested by the competent authority;
d) Where applicable (for mining), require the holder of the authorisation to furnish the competent authority with proof of compliance with the requirements regarding financial provisions;

3 Regulation 10.
4 Regulation 37(1).
5 Regulation 37(2).

e) Where applicable (for mining), require the holder of the authorisation to furnish the competent authority with proof of compliance with the requirements regarding closure; and
f) Include any other condition that the competent authority considers necessary for the protection of the environment.

- The competent authority can amend and/or withdraw an Environmental Authorisation under certain conditions.[6]
- The competent authority may also decide whether to accept an application by the proponent to amend the Environmental Authorisation.[7]
- The competent authority may amend an EMP if necessary or desirable to protect the environment, to achieve prescribed standards, or to ensure compliance with the authorisation.[8]
- The competent authority must review and make a decision on any application from an applicant for an exemption from the requirements of the EIA Regulations and to review that exemption status from time to time.
- The competent authority may suspend an Environmental Authorisation if there are reasonable grounds for believing that the contravention or non-compliance causes or will cause harm to the environment and human rights, that the Environmental Authorisation was obtained fraudulently, or that the activity has ceased.[9]

Project proponents and developers

Before applying for Environmental Authorisation for an activity, an applicant must appoint an environmental assessment practitioner at his/her own cost to manage the application.[10] The applicant must make sure that the practitioner to be appointed is independent and has the necessary expertise to perform the work and comply with the necessary legal requirements.

The applicant must also provide the practitioner with all relevant documentation relating to the proposed development.

Environmental assessment practitioners

An environmental assessment practitioner, or any person compiling a specialist report or undertaking a specialised process (a specialist), appointed by the applicant must:[11]

- be independent;
- have expertise in conducting EIAs, as well as knowledge of NEMA, the EIA Regulations and any guidelines that have relevance to the proposed activity;

6 Regulations 38, 43-45.
7 Regulations 39-42.
8 Regulation 46.
9 Regulation 47.
10 Regulation 16.
11 Regulation 17.

- perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- comply with all relevant legislation;
- take into account all potential impacts of the proposed development and consider alternatives, all comments and concerns raised by interested and affected parties, and all other related planning documentation or reports that may be relevant to the study; and
- disclose to the applicant and the competent authority all material information in his/her possession that reasonably has or may have the potential to influence any decision and/or the objectivity of the report.

If the competent authority has, at any time, reason to believe that the environmental assessment practitioner is not independent, it must instigate an investigation. After considering all representations made, it may refuse to accept any further work from the environmental assessment practitioner, request the applicant to conduct an external review at his/her own cost, and/or request the applicant to appoint another environmental assessment practitioner to redo and complete the application. In this case, the applicant must also notify all registered interested and affected parties of the change in practitioner.[12]

12.3 Policy and legal framework for EIA

12.3.1 Environmental Management Policy

In view of the constitutional requirements, the then Department of Environment Affairs and Tourism published its Environmental Management Policy in July 1997 after an extensive, two-year consultative process. The Policy sets out a vision, principles, strategic goals and objectives, issues of governance, and an implementation programme. Besides defining environment as including biophysical, cultural, economic, political and social dimensions, the Policy states that people are part of the environment and at the centre of concerns for its sustainability.[13]

12.3.2 National Environmental Management Act, No. 107 of 1998

The NEMA was promulgated to give effect to the Environmental Management Policy. The Act repealed most of the Environment Conservation Act, No. 73 of 1989. The NEMA was subsequently amended on several occasions. Amendments include the National Environmental Management Amendment Act of 2003, the National Environmental Management Second Amendment Act, No. 8 of 2004

12 Regulation 18.
13 Nexant Inc., 2006. *Guidelines for environmental assessment of hydropower projects in SADC.* South African Chapter. In preparation.

(which came into operation on 7 January 2005 and amends section 24 of NEMA), and the National Environmental Management Amendment Act, No. 62 of 2008 (which came into effect on 1 May 2009). The latter largely affects section 24 of the original 1998 Act. Further amendments are anticipated in the National Environmental Management Laws Amendment Bill of 2011.

The aim of NEMA is to provide for cooperative environmental governance by establishing principles for decision-making on matters affecting the environment, institutions that will promote cooperative governance, and procedures for coordinating environmental functions exercised by organs of state.

NEMA is divided into ten chapters, as follows:

Chapter 1: National environmental management principles
Chapter 2: Institutions
Chapter 3: Procedures for cooperative governance
Chapter 4: Fair decision-making and conflict management
Chapter 5: Integrated environmental management
Chapter 6: International obligations and agreements
Chapter 7: Compliance, enforcement and protection
Chapter 8: Environmental management cooperation agreements
Chapter 9: Administration of Act
Chapter 10: General and transitional provisions

The principles set out in section 2 of Chapter 1 underpin all other related Acts and policies and form the basis of sustainable development in the country. They apply to all organs of state that may have a significant effect on the environment through their actions. The principles are summarised as follows:

2(2) Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably.

2(3) Development must be socially, environmentally and economically sustainable.

2(4) a) Sustainable development requires the consideration of the following:

i. Disturbance to biological diversity must be avoided or minimised and remedied.
ii. Pollution of the environment must be avoided or minimised and remedied.
iii. Disturbance of landscapes and sites that constitute the nation's cultural heritage must be avoided or minimised and remedied.
iv. Waste must be avoided or, where it cannot be avoided, consideration must be given to minimisation, reuse or recycling.
v. The use and exploitation of non-renewable resources must be responsible and equitable.
vi. The development, use and exploitation of renewable resources must be within sustainable limits.
vii. A risk-averse and cautious approach must be applied.
viii. Negative impacts on the environment and on people's environmental rights should be anticipated and prevented or minimised and remedied.

b) Environmental management must be integrated and the best practicable environmental option should be pursued.

c) Environmental justice should be pursued so that adverse environmental effects are not distributed in such a way as to discriminate unfairly against any person, particularly the most vulnerable.

d) Equitable access to environmental resources, benefits and services to meet basic human needs and human wellbeing should be given due consideration.

e) Responsibility for the environmental health and safety consequences of all policies, programmes, projects, products, processes, services and activities exists throughout the life cycle.

f) Public participation is promoted, as well as building capacity among the most vulnerable and disadvantaged so that they can have meaningful participation.

g) Decisions must consider the interests, needs and values of all interested and affected parties, including the recognition of traditional and ordinary knowledge.

h) Community wellbeing and empowerment must be promoted through a variety of programmes.

i) Social, economic and environmental impacts must be considered, assessed and evaluated, and decisions must be appropriate to the impact assessment findings.

j) Workers have a right to refuse to do work that may be harmful to human or environmental health.

k) Decisions must be made in a transparent and open manner, and access to information must be provided in accordance with the relevant laws, such as the Promotion of Access to Information Act, No. 2 of 2000.

l) There must be intergovernmental coordination and harmonisation of policies, legislation and actions relating to the environment.

m) Conflicts of interest between departments should be resolved through conflict resolution procedures.

n) Global or international responsibilities relating to the environment must be discharged in the national interest.

o) The environment is held in trust for the people; the beneficial use of resources must serve the public interest and the environment must be protected as the people's common heritage.

p) The costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects must be borne by those responsible for harming the environment.

q) The role of women and youth in environmental management must be recognised and promoted.

r) Sensitive, vulnerable, highly dynamic or stressed ecosystems require specific attention in management and planning procedures, especially where they are subject to significant human resources usage and development pressure.

12.3.3 Regulations

In April 2006, the old EIA Regulations made in terms of the Environment Conservation Act, No. 73 of 1989, were replaced by new EIA Regulations made in terms of Chapter 5 of NEMA. These Regulations, set out in Government Notices No. R365 (process), R386 (Basic Assessment listed activities) and R387 (EIA listed activities), have subsequently been revised based on comments received from all stakeholders, the need to accommodate mining activities, and the need to align with the NEMA Amendment Acts and other national environmental management Acts. The new EIA Regulations were gazetted in Government Notice No. R543 on 18 June 2010, and were amended via Notice No. R1159 on 10 December 2010.

The Regulations (R543) set out the processes that have to be followed in order to obtain an *Environmental Authorisation,* while Listing Notices 1 (contained in Notice R544) and 2 (R545) provide lists of activities that require a Basic Assessment Report (BAR) and EIA respectively. Listing Notice 3 (contained in R546) lists activities that would require authorisation if carried out in specified geographical areas.

The steps required to produce a BAR or to conduct an EIA under these Regulations are described in section 12.4 of this Handbook.

The Regulations prescribe the time that officials should take to arrive at decisions, as well as the contents of the two types of reports (see section 12.4), public participation and the use of environmental assessment professionals.

Notice R547 contains the Environmental Management Framework (EMF) Regulation to help guide the process of developing EMFs, their content and approval and adoption process.

12.3.4 Permits and licences

An *Environmental Authorisation* is required before a developer can undertake any activity listed in Listing Notices 1, 2 and 3, as shown in Appendices 12-1, 12-2 and 12-3 of this Handbook respectively. In addition, several other permits, licences or authorisations may be required, depending on the type of activity contemplated. The main ones are listed in Table 12.2.

Table 12.2: Environmental permits and licences

Act, Regulation or Bylaw	Permit or licence	Requirements	Implementing agency
National Water Act, No. 36 of 1998, as amended	Water Use Licence	A licence is required for the abstraction, storage, use, diversion, flow reduction and disposal of water and effluent.	DWA
National Environmental Management: Air Quality Act, No. 39 of 2004	Atmospheric Emission Licence	No listed activity in terms of the Act can take place without a licence.	Municipalities
National Environmental Management: Waste Act, No. 59 of 2008	Waste Management Licence	A licence is required to establish and operate a waste disposal site. The Waste Management Series Guidelines issued by the former Department of Water Affairs and Forestry (DWAF) must be followed in order to obtain a licence.	DEA: Directorate: Integrated Pollution Prevention and Waste Management
National Forests Act, No. 84 of 1998	Forest Licence	A licence is required to cut, damage or destroy any listed indigenous trees.	Department of Agriculture, Forestry and Fisheries
Mineral and Petroleum Resources Development Act, No. 28 of 2004	Prospecting Right Mining Right Mining Permit	Authorisation is required to explore, prospect for and mine any mineral.	Department of Mineral Regulation (DMR)
Mineral and Petroleum Resources Development Act, No. 28 of 2004	Reconnaissance Permit Exploration Right Production Right	Authorisation is required to carry out reconnaissance and exploration activities for oil and gas and to produce such oil and gas.	DMR
Mineral and Petroleum Resources Development Act, No. 28 of 2004, and the Mine Health and Safety Act, No. 29 of 1996	Blasting Permit	A permit is required for any blasting activity.	DMR
National Heritage Resources Act, No. 25 of 1999	Permit	Permits are required for any development that may affect heritage resources, such as graves, wrecks and old buildings.	South African Heritage Resources Agency

12.3.5 Penalties

Section 71(1) of the EIA Regulations states that a person is guilty of an offence if that person:

a) provides incorrect or misleading information in any document submitted in terms of the Regulations to a competent authority;
b) fails to comply with Regulation 7(2) (disclosure of information to the competent authority);
c) fails to comply with a request to submit an environmental audit report in terms of Regulation 69(2);
d) contravenes or fails to comply with any conditions granted in an authorised exemption (as provided for in Chapter 5 of the EIA Regulations); or
e) continues with an activity where the Environmental Authorisation was suspended in terms of Regulation 49.

Section 71(2) states that a person is liable on conviction of an offence in terms of sub-regulation (1) to imprisonment for a period not exceeding one year, to a fine not exceeding R1 million, or to both a fine and imprisonment.

12.3.6 Fees

In terms of Government Notice No. 784 of 2011, fees must be paid to the competent authority before an application for an Environmental Authorisation (or a Waste Management Licence) is considered.[14] The fee scale is set out in Table 12.3.

Table 12.3: Fees for consideration of Basic Assessment and EIA reports

Application for an Environmental Authorisation or Waste Management Licence, when:	Fee
• The activity triggers a Basic Assessment (sole activity). • The activity triggers an EIA (sole activity).	R2 000 R10 000
The application includes a second activity, which: •Triggers a Basic Assessment; or • Triggers an EIA.	50% of original fee, i.e. R1 000 R5 000
The application includes a third activity, which: • Triggers a Basic Assessment; or • Triggers an EIA.	25% of original fee, i.e. R250 R2 500
The application includes a fourth or more activities, which: • Trigger a Basic Assessment; or • Trigger an EIA.	0% of original fee, i.e. R0 R0

14 Made in terms of sections 24(5)(c), 24M and 44 of NEMA and sections 45(2)(a) and 69(1)(w) of the National Environmental Management: Waste Act, 2008.

For example, for an application for an 800 MW power station (EIA required in terms of Listing Notice 2), a new two-lane access road to the power station (EIA required in terms of Listing Notice 2), and a new 125 kV power line (Basic Assessment required in terms of Listing Notice 1), the review fees would be calculated as follows:

First activity (800 MW power station)	R10 000 (full fee)
Second activity (new access road)	R5 000 (50% of full fee for activity 1)
Third activity (125 kV power line)	R2 500 (25% of full fee for activity 1)
Total fee	**R17 500**

The applicant can motivate in writing for an exemption from the prescribed fees.

The non-refundable fee is payable any time in the period between submitting the application form and presenting the BAR or EIA for review – the competent authority will not consider the relevant report until the fee has been paid (or an exemption granted). If, after the applicant has submitted a BAR, the competent authority deems it necessary for him/her to undertake an EIA, the balance of the fee must be paid before the EIA report will be considered.

Fees are not required for:

- An application for rectification of an unlawful commencement of an activity in terms of section 24G of NEMA;
- An application for an exemption from certain EIA provisions;
- An application for the amendment of Environmental Authorisations or EMPs;
- Appeals; or
- An application where the applicant is an organ of state.

12.3.7 Guidelines

Sector EIA guidelines are being developed for: roads, energy, agri-industry, aquaculture, housing and linear developments (other than roads). Check the DEA website to see if these guidelines are available: www.environment.gov.za.

The Department has also published an Integrated Environmental Management Information Series, which comprises 16 separate guidelines on all aspects of environmental management. They include the following: integrated environmental management in general, screening, scoping, stakeholder engagement, specialist studies, impact significance, ecological risk assessment, cumulative effects assessment, cost-benefit analysis, life cycle assessment, strategic environmental assessment, alternatives, EMPs, EIA review, auditing, environmental impact reporting and environmental economics.

Some of the provinces have developed specific guidelines. For example, the Western Cape has published a series of guidelines on specialist involvement in EIA processes.

In addition to the above, section 24J of NEMA makes provision for the Minister or the Member of the Executive Council (MEC) of a province to publish national and provincial guidelines with regard to:

a) Any environmentally sensitive area;
b) Any particular type of environmental impact;
c) Any particular kind of activity; and
d) Any particular process.

While these guidelines are not legally binding, they must be taken into account when preparing, submitting, processing or considering any application for an environmental authorisation.[15]

12.3.8 Environmental standards

South Africa has developed its own effluent and emission standards. These are contained in a number of documents, as listed in Table 12.4.

Table 12.4: South African effluent and emission standards and guidelines

Air quality
Framework for setting and implementing national Ambient Air Quality Standards, SANS 69:2004
Ambient Air Quality – Limits for Common Pollutants, SANS 1929:2005
National Ambient Air Quality Standards, Government Notice No. 1210, December 2009
Standards for other prioritised pollutants are in preparation. Until then, transitional standards are in place, based on the guidelines of the old Atmospheric Pollution Prevention Act.
Solid waste
Minimum Requirements for the Handling, Classification and Disposal of Hazardous Waste, 2nd ed., 1998
Minimum Requirements for Waste Disposal by Landfill, 3rd ed., 2005
Minimum Requirements for Water Monitoring at Waste Management Facilities, 3rd ed., 2005
White Paper on Integrated Pollution and Waste Management for South Africa, March 2000
Water quality
Drinking Water Specifications, SANS 241-1:2011: Drinking Water. Part 1: Microbiological, Physical, Aesthetic and Chemical Determinants
SANS 241-2:2011: Application of SANS 241-1:2011
South African Water Quality Guidelines series, Vol. 1-7, 1998
National Water Act Waste Discharge Standards, DWA 2010 Guidelines for Wastewater
Catchment Management Series
Noise
The Measurement and Rating of Environmental Noise with Respect to Annoyance and to Speech Communication, SANS 10103:2008
Methods for Environmental Noise Impact Assessments, SANS 10328:2008
Local government regulations

SANS: South African National Standards

15 Regulations 5, 22(3)(a), 28(2).

12.3.9 Certification of EIA consultants

The Environmental Assessment Practitioners Association of South Africa (EAPASA) was launched on 7 April 2011, when 802 individuals resolved, as founding members, to form the organisation.

Once constituted, the Board of EAPASA will apply to the Minister of Water and Environmental Affairs to be recognised as a Registration Authority in terms of Section 24H of the NEMA. Once EAPASA has been recognised, the Minister will publish a date by which all environmental assessment practitioners practicing in terms of NEMA must be registered. This date will provide for a reasonable phase-in period of between 18 months and three years.

The issue of reciprocity regarding the recognition of certified practitioners between South Africa and other countries has yet to be clarified.

In the meantime, in terms of the EIA Regulations, the only specified requirements for environmental assessment practitioners or specialists are that they must be independent, have the necessary expertise in conducting EIAs, have an understanding of the legal requirements, perform work in an objective manner, and take into account the issues listed in section 17 of the EIA Regulations.

12.4 EIA procedural framework in South Africa

12.4.1 Screening

An impact assessment must be conducted for all activities that may have an impact on the environment. An activity is defined as any development action that is likely to result in a significant environmental impact, as identified in the schedules contained in the Listing Notices or in any other notice published by the Minister or MEC in terms of section 24D of NEMA.

The EIA Regulations distinguish between two types of assessment, either a Basic Assessment or a Scoping and Environmental Impact Assessment. The schedule of activities requiring a BAR is contained in Listing Notice 1 (see Appendix 12-1) and the schedule of activities that must go through the full EIA process is provided in Listing Notice 2 (see Appendix 12-2). Activities

that are located in specified geographic areas that require an EIA are contained in Listing Notice 3 (see Appendix 12-3).

12.4.2 Basic Assessment process and report contents

A number of important steps are required during the Basic Assessment process, as set out in sections 21–25 of the EIA Regulations. These are shown schematically in Figure 12.1 and are summarised below.

Steps to be taken before submission of application (Regulation 21)

If a Basic Assessment is required for an application, the environmental assessment practitioner managing the application must, before submitting it to the competent authority:

a) Conduct a public participation process.
b) Open and maintain a register of interested and affected parties (see section 12.4.4).
c) Consider all objections and representations received from interested and affected parties during the public participation process and subject the proposed application to a Basic Assessment by assessing:
    i. The potential impacts of the activity on the environment;
    ii. Whether and to what extent those impacts can be mitigated; and
    iii. Whether any significant issues and impacts require further investigation.
d) Prepare a BAR in accordance with Regulation 22 (see below).
e) Give all registered interested and affected parties an opportunity to comment on the BAR in accordance with Regulations 54–57 (see section 12.4.4).

Content of Basic Assessment Reports (Regulation 22)

A BAR must contain all the information that is necessary for the competent authority to consider the application and reach a decision. It must include the following:

a) Details of the environmental assessment practitioner who prepared the report, and his/her expertise to carry out Basic Assessment procedures;
b) A description of the proposed activity;
c) A description of the property on which the activity is to be undertaken and the location of the activity on the property, a description of the route if it is a linear activity, or the coordinates if the activity is at sea;
d) A description of the environment that may be affected by the proposed activity and the manner in which the geographical, physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed activity;
e) An identification of all policies, legislation and relevant guidelines that have been considered in the preparation of the BAR;
f) Details of the public participation process, including:
    i. The steps that were taken to notify potentially interested and affected parties of the proposed application;
    ii. Proof that noticeboards, advertisements and notices to potentially interested and affected parties regarding the proposed application have been displayed, placed or given;
    iii. A list of all persons, organisations and organs of state that were registered as interested and affected parties in relation to the application; and
    iv. A summary of the issues raised by interested and affected parties, the date of receipt of those issues, and the environmental assessment practitioner's response to them;
g) A description of the need and desirability of the proposed activity;
h) A description of any identified alternatives to the proposed activity that are feasible and reasonable, including the advantages and disadvantages that the proposed activity or alternatives will have on the environment and on the community that may be affected by the activity;
i) A description and assessment of the significance of any environmental impacts, including cumulative impacts, that may occur as a result of the undertaking of the activity or identified alternatives, or as a result of any construction, erection or decommissioning associated with it;
j) Any environmental management and mitigation measures proposed by the environmental assessment practitioner;
k) Any inputs made by specialists to the extent that may be necessary;
l) A draft EMP, which must include measures to rehabilitate the affected environment to its natural or predetermined state, or to a land use that generally conforms with the principles of sustainable development (Regulation 34(a)–(g));
m) A description of any assumptions, uncertainties and gaps in knowledge;
n) A reasoned opinion as to whether the activity should or should not be authorised and the conditions to be attached to the authorisation;
o) Any representations and comments received in connection with the application;
p) The minutes of any meetings held by the environmental assessment practitioner with interested and affected parties and other role players;
q) The responses by the environmental assessment practitioner to those representations, comments and views;
r) Any specific information required by the competent authority; and
s) Any other matters required in terms of sections 24(4)(a) and (b) of the Act.

In addition, the BAR must take into account all relevant guidelines, various departmental policies and other decision-making instruments.

Submission of application to competent authority (Regulation 23)

Once the BAR has been completed, the environmental assessment practitioner managing the application should complete the application form for Environmental Authorisation and submit it to the competent authority, together with the prescribed fee, and at least five copies of:

a) The BAR;
b) Any representations and comments received in connection with the application or the BAR;
c) The minutes of any meetings the environmental assessment practitioner held with interested and affected parties and other role players, which record the views of the participants; and
d) Any responses by the environmental assessment practitioner to those representations, comments and views.

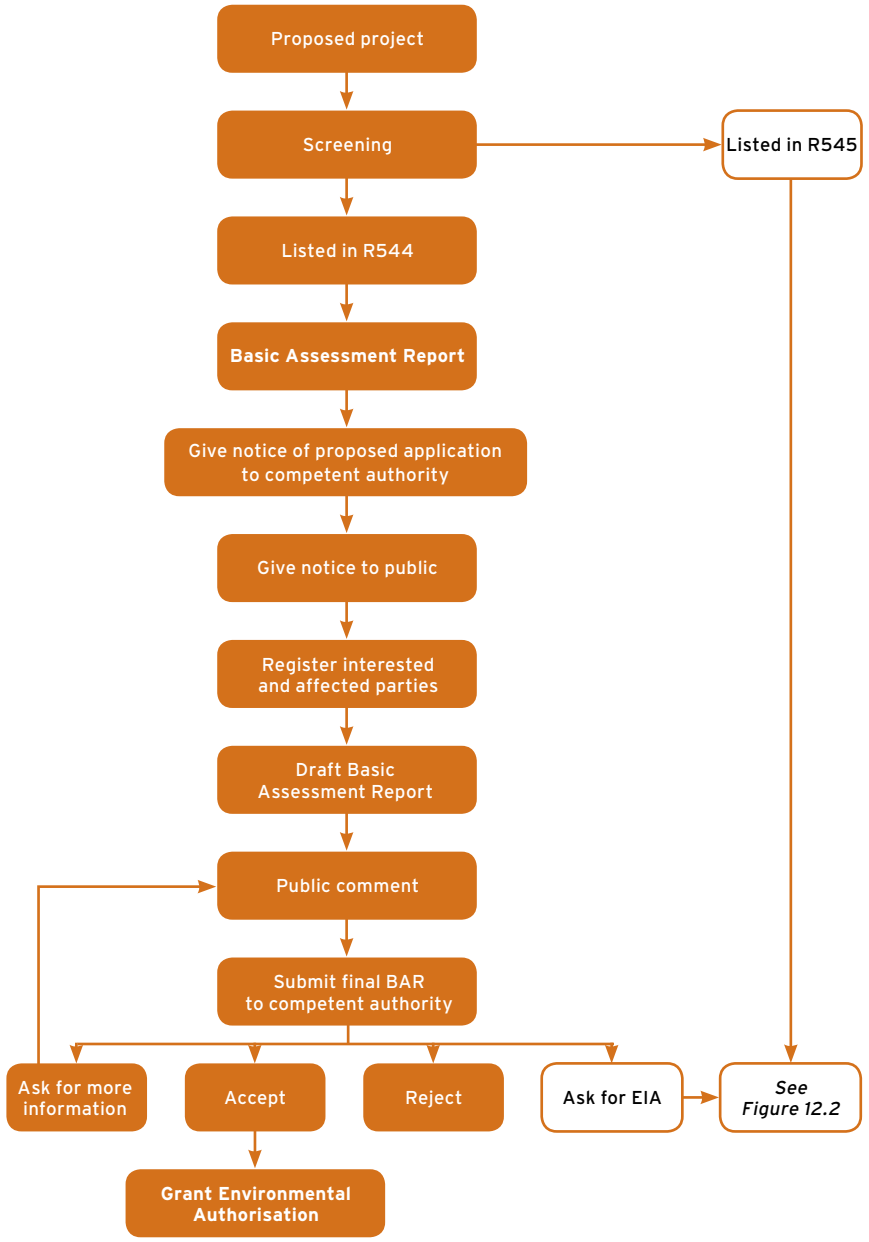
12.4.3 Scoping and Environmental Impact Report

If the proposed activity is contained in the list in R387 (see Appendix 12-2), the applicant must follow the full EIA process, which comprises a scoping phase, an EIA report, specialist studies, public participation and an EMP. The steps required are shown schematically in Figure 12.2 and are summarised below.

Submission of application to competent authority (Regulation 26)

If scoping is required for an application, the environmental assessment practitioner managing the application must complete the application form for Environmental Authorisation and submit it to the competent authority, together with a declaration of interest, the prescribed application fee, if any, and any other documents required by the competent authority.

Figure 12.1: Basic Assessment process



Steps to be taken after submission of application (Regulation 27)

After having submitted an application, the environmental assessment practitioner managing the application must do the following:

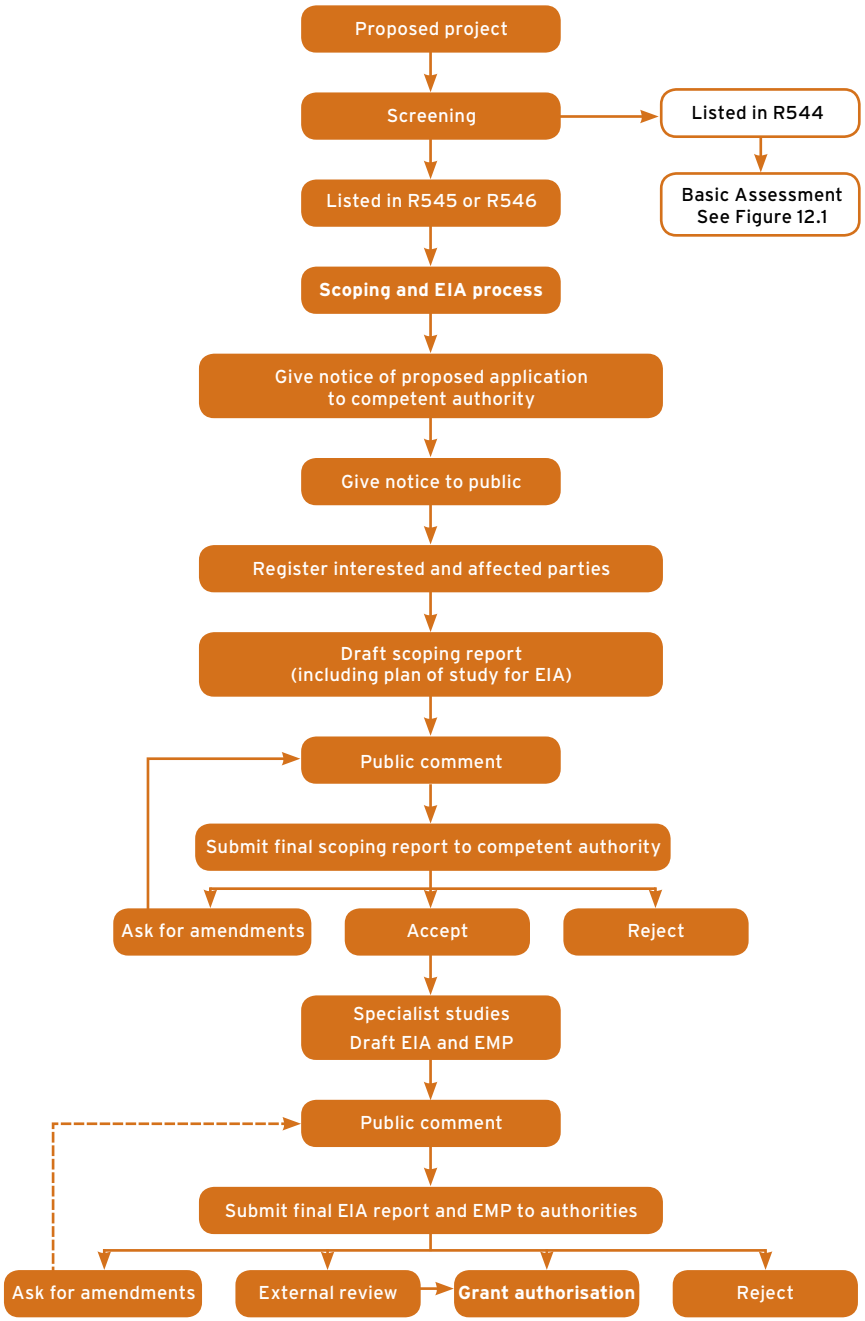
a) Conduct the public participation process set out in Regulation 54 (described in section 12.4.4).
b) Give notice, in writing, of the proposed application to any organ of state that has jurisdiction in respect of any aspect of the activity.
c) Open and maintain a register of all interested and affected parties in respect of the application in accordance with Regulation 55.
d) Consider all objections and representations received from interested and affected parties following the public participation process.
e) Subject the application to scoping by identifying:
   i. Issues that will be relevant for consideration of the application;
   ii. The potential environmental impacts of the proposed activity; and
   iii. Alternatives to the proposed activity that are feasible and reasonable.
f) Prepare a scoping report in accordance with Regulation 28.
g) Give all registered interested and affected parties an opportunity to comment on the scoping report in accordance with Regulation 56.
h) Where applicable, submit the scoping report within the timeframes stipulated by the competent authority.
i) Submit at least five copies of the scoping report to the competent authority.

Content of scoping reports (Regulation 28)

A scoping report must contain all the information that is necessary for a proper understanding of the nature of issues identified during scoping, and must include:

a) Details of the environmental assessment practitioner who prepared the report, and his/her expertise to carry out scoping procedures;
b) A description of the proposed activity;
c) A description of any feasible and reasonable alternatives that have been identified;
d) A description of the property on which the activity is to be undertaken and the location of the activity on the property; or if it is a linear activity, a description of the route of the activity; or if it is an ocean-based activity, the coordinates where the activity is to be undertaken;
e) A description of the environment that may be affected by the activity and the manner in which the activity may be affected by the environment;
f) An identification of all legislation and guidelines that have been considered in the preparation of the scoping report;
g) A description of environmental issues and potential impacts, including cumulative impacts, that have been identified;
h) Details of the public participation process conducted in terms of Regulation 27(a), including:
   i. The steps that were taken to notify potentially interested and affected parties of the application;
   ii. Proof that noticeboards, advertisements and notices to potentially interested and affected parties regarding the application have been displayed, placed or given;
   iii. A list of all persons or organisations that were identified and registered as interested and affected parties in relation to the application; and
   iv. A summary of the issues raised by interested and affected parties, the date of receipt of those issues, and the environmental assessment practitioner's response to them;
i) A description of the need and desirability of the proposed activity;
j) A description of any identified alternatives to the proposed activity that are feasible and reasonable, including the advantages and disadvantages that the proposed activity or alternatives will have on the environment and on the community that may be affected by the activity;
k) Copies of representations and comments received from interested and affected parties;
l) Copies of the minutes of all meetings held with interested and affected parties;
m) Responses by the environmental assessment practitioner to all the representations and comments received;
n) A plan of study for the EIA, which sets out the proposed approach to the EIA of the application, and which must include:
   i. A description of the tasks that will be undertaken as part of the EIA process, including any specialist reports or specialised processes, and the manner in which such tasks will be undertaken;
   ii. An indication of the stages at which the competent authority will be consulted;
   iii. A description of the proposed method of assessing the environmental issues and alternatives, including the option of not proceeding with the activity; and
   iv. Particulars of the public participation process that will be conducted during the EIA process;
o) Any specific information required by the competent authority; and
p) Any other matters required in terms of sections 24(4)(a) and (b) of the Act.

Figure 12.2: Scoping and EIA process



Submission of scoping reports to competent authority (Regulation 29)

The environmental assessment practitioner managing an application must submit five copies of the scoping report compiled in terms of Regulation 28 to the competent authority, together with:

a) Copies of any representations and comments received in connection with the application or the scoping report from interested and affected parties;
b) Copies of the minutes of any meetings held by the environmental assessment practitioner with interested and affected parties and other role players, which record the views of the participants; and
c) Any responses by the environmental assessment practitioner to those representations, comments and views.

The competent authority must consider the scoping report according to the timeframe set out in Table 12.1 and make a decision as described in section 12.2.2.

EIA reports (Regulation 31)

If a competent authority accepts a scoping report and advises the environmental assessment practitioner to proceed with the tasks contemplated in the plan of study for the EIA, the practitioner must proceed with those tasks, including the required public participation process (see section 12.4.4), and prepare an EIA report for the proposed activity.

An EIA report must contain all information that is necessary for the competent authority to consider the application and to reach an informed decision, and must include as a minimum:

a) Details of the environmental assessment practitioner who compiled the report and his/her expertise to carry out an EIA;
b) A detailed description of the proposed activity;
c) A description of the property on which the activity is to be undertaken and the location of the activity on the property; or if it is a linear activity, a description of the route of the activity; or if it is an ocean-based activity, the coordinates where the activity is to be undertaken;
d) A description of the environment that may be affected by the activity and the manner in which the physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed activity;
e) Details of the public participation process, including:
    i. Steps undertaken in accordance with the plan of study;
    ii. A list of persons, organisations and organs of state that were registered as interested and affected parties;
    iii. A summary of comments received from and issues raised by registered interested and affected parties, the date of receipt of these comments, and the environmental assessment practitioner's response to them; and

iv. Copies of any representations, objections and comments received from registered interested and affected parties;

f) A description of the need and desirability of the proposed activity;

g) A description of identified potential alternatives to the proposed activity, including advantages and disadvantages that the proposed activity or alternatives may have on the environment and the community that may be affected by the activity;

h) An indication of the methodology used in determining the significance of potential environmental impacts;

i) A description and comparative assessment of all alternatives identified during the EIA process;

j) A summary of the findings and recommendations of any specialist report or report on a specialised process;

k) A description of all environmental issues that were identified during the EIA process, an assessment of the significance of each issue, and an indication of the extent to which the issue could be addressed by the adoption of mitigation measures;

l) An assessment of each identified potentially significant impact, including:
   i. Cumulative impacts;
   ii. The nature of the impact;
   iii. The extent and duration of the impact;
   iv. The probability of the impact occurring;
   v. The degree to which the impact can be reversed;
   vi. The degree to which the impact may cause irreplaceable loss of resources; and
   vii. The degree to which the impact can be mitigated;

m) A description of any assumptions, uncertainties and gaps in knowledge;

n) A reasoned opinion as to whether the activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation;

o) An environmental impact statement, which contains:
   i. A summary of the key findings of the EIA; and
   ii. A comparative assessment of the positive and negative implications of the proposed activity and identified alternatives;

p) A draft EMP (see below);

q) Copies of any specialist reports and reports on specialised processes;

r) Any specific information that may be required by the competent authority; and

s) Any other matters required in terms of sections 24(4)(a) and (b) of the Act.

Specialist reports and reports on specialised processes (Regulation 32)

An applicant or the environmental assessment practitioner managing an application may appoint a person who is independent to carry out a specialist study or specialised process. A specialist report or a report on a specialised process prepared in terms of these Regulations must contain:

a) Details of the person who prepared the report and his/her expertise to carry out the specialist study or specialised process;

b) A declaration that the person is independent, on the prescribed form;

c) An indication of the scope of the report and the purpose for which it was prepared;

d) A description of the methodology adopted in preparing the report or carrying out the specialised process;

e) A description of any assumptions made and any uncertainties or gaps in knowledge;

f) A description of the findings and the potential implications of such findings on the impact of the proposed activity, including identified alternatives, on the environment;

g) Recommendations in respect of any mitigation measures that should be considered by the applicant and the competent authority;

h) A description of any consultation process that was undertaken during the course of the study;

i) A summary and copies of any comments that were received during any consultation process; and

j) Any other information requested by the competent authority.

Content of draft environmental management programmes (Regulation 33)

A draft EMP must include:

a) Details of the person who prepared the EMP and his/her expertise to prepare it;

b) Information on any proposed management or mitigation measures that will be taken to address the environmental impacts identified in the EIA report, including environmental impacts or objectives in respect of:
   i. Planning and design;
   ii. Pre-construction and construction activities;
   iii. Operation or undertaking of the activity;
   iv. Rehabilitation of the environment; and
   v. Closure, where relevant.

c) A detailed description of the aspects of the activity that are covered by the draft EMP;

d) An identification of the persons who will be responsible for the implementation of the EMP;

e) Proposed mechanisms for monitoring compliance with and performance assessment against the EMP and for reporting thereon;

f) As far as reasonably practical, measures to rehabilitate the affected environment to its natural or predetermined state or to a land use that conforms to the generally accepted principles of sustainable development,

including, where appropriate, concurrent or progressive rehabilitation measures;

g) A description of the manner in which it intends to modify, remedy, control or stop any action that causes pollution or degradation of the environment; how the activity will comply with any prescribed environmental management standards or practices; and how the applicant will comply with all applicable provisions regarding financial provision for rehabilitation and closure;

h) Periods within which the measures contemplated in the EMP must be implemented;

i) The process of managing any environmental damage, pollution, pumping and treatment of extraneous water or ecological degradation as a result of undertaking the listed activity;

j) An environmental awareness plan, describing the manner in which the applicant intends to inform his/her employees of any environmental risks that may result from their work and how the risks must be dealt with to avoid pollution or degradation of the environment; and

k) Where appropriate, closure plans, including a list of closure objectives.

It should be noted that one of the new changes in the Regulations requires that all amendments to the EMP must be subjected to the prescribed public participation and approval processes.[16]

Once the competent authority has received the completed EIA application, it must be processed in terms of the timeframe set out in Table 12.1.

12.4.4 Public participation process

Giving notice (Regulation 54)

The person conducting a public participation process must take into account any guidelines applicable to public participation as contemplated in section 24J of the Act, and must give notice to all potential interested and affected parties of the application that is subject to public participation by:

a) Fixing a notice board at a place conspicuous to the public at the boundary or on the fence of the site of the activity to which the application relates and any alternative site mentioned in the application;

b) Giving written notice to:
   i. The owner or the person in control of the land;
   ii. The occupiers of the site and any alternatives sites that might be identified;
   iii. The owners and occupiers of land adjacent to the site where the activity is to be undertaken and all alternative sites;
   iv. The municipal councillor of the ward in which the site or alternative site is situated and any organisation of ratepayers that represents the community in the area;
   v. The municipality that has jurisdiction in the area;
   vi. Any organ of state having jurisdiction in respect of any aspect of the activity; and
   vii. Any other party as required by the competent authority.

c) Placing an advertisement in:
   i. One local newspaper; or
   ii. Any official Gazette that is published specifically to provide public notice of applications or other submissions; and
   iii. At least one provincial newspaper or national newspaper, if the activity may have an impact that extends beyond the boundaries of the metropolitan or local municipality in which it will be undertaken (this action is not necessary if a notice has been placed in an official Gazette).

When complying with this Regulation, the person conducting the public participation process must ensure that:

a) Information containing all relevant facts in respect of the application is made available to potential interested and affected parties; and

b) Participation by potential interested and affected parties is facilitated in such a manner that all are provided with a reasonable opportunity to comment on the application. Where people or communities might not be able to participate due to an inability to read or write, a disability or any other disadvantage, the environmental assessment practitioner shall provide reasonable alternative means for them to comment.

Regulations 54(3) and 54(4) stipulate the dimensions and methods of advertising the project for which a public participation process is to be carried out.

Regulation 54(8) states that unless justified by exceptional circumstances, the applicant and environmental assessment practitioner must not conduct any public participation during the period 15 December to 2 January.

Register of interested and affected parties (Regulation 55)

An applicant or environmental assessment practitioner managing an application must open and maintain a register that contains the names and addresses of:

a) All persons who have submitted written comments or attended meetings with the applicant or environmental assessment practitioner;

b) All persons who have requested the applicant or the environmental assessment practitioner managing the application, in writing, for their names to be placed on the register; and

c) All organs of state that have jurisdiction over the activity to which the application relates.

16 Regulation 39-42.

An applicant or environmental assessment practitioner managing an application must give access to the register to any person who submits a request for such access in writing.

Registered interested and affected parties entitled to comment on submissions (Regulation 56)

A registered interested and affected party is entitled to comment, in writing, on all written submissions, including draft reports, made to the competent authority by the applicant or the environmental assessment practitioner managing an application. The party may bring to the attention of the competent authority any issues believed to be of significance to the consideration of the application, provided that:

a) Comments are submitted within the set timeframes or any agreed extensions;
b) A copy of comments submitted directly to the competent authority is served on the applicant or environmental assessment practitioner; and
c) The interested and affected party discloses any direct business, financial, personal or other interest in the approval or refusal of the application.

Before the environmental assessment practitioner managing an application for Environmental Authorisation submits a report to the competent authority, s/he must give registered interested and affected parties access to and an opportunity to comment on the final report in writing. This includes:

a) BARs;
b) BARs that have been amended and resubmitted;
c) Scoping reports;
d) Scoping reports that have been amended and resubmitted;
e) Specialist reports and reports on specialised processes;
f) EIA reports;
g) EIA reports that have been amended and resubmitted; and
h) Draft EMPs.

Any written comments received by the environmental assessment practitioner from a registered interested and affected party must accompany the report when it is submitted to the competent authority.

In order to give effect to section 24(O) of the Act, the Regulations state that the draft reports referred to above must be referred to the relevant state department, where applicable, for comment. The department has 40 days in which to make comments (or 60 days in the case of waste management activities), after which it is deemed that no comments will be forthcoming.[17]

17 Regulation 61(6)-(7)

Comments of interested and affected parties to be recorded in reports submitted to the competent authority (Regulation 57)

The environmental assessment practitioner managing an application for Environmental Authorisation must ensure that the comments of interested and affected parties are recorded in reports submitted to the competent authority. Where interested and affected parties are unable to read or write, or have a disability or any other disadvantage preventing them from accessing comments, the environmental assessment practitioner must make reasonable alternative arrangements for recording and/or viewing the reports and comments.

12.4.5 Environmental management frameworks

Although there is no specific mention of the need for strategic environmental assessments in NEMA, the concept is implied through the term 'environmental management framework' as referred to in section 24(3) of the Act, as amended. The purpose of an EMF is to compile information and maps specifying the attributes of the environment in particular geographical areas. The onus is on the Minister or provincial MEC to develop a draft EMF and subject it to a public participation process (Regulation 73). An EMF must do the following:

a) Delineate the geographical area to which the EMF applies.
b) Note the attributes of the environment in the area, including the sensitivity, extent and interrelationships, and the significance of those attributes.
c) Identify any parts in the area to which those attributes relate.
d) State the conservation status of the area and in those parts.
e) State the environmental management priorities of the area.
f) Indicate the kind of developments or land uses that would have a significant impact on those attributes and those that would not.
g) Indicate the kind of developments or land uses that would be undesirable in the area or in specific parts of the area.
h) Indicate the parts of the area with specific socio-cultural values and the nature of those values.
i) Identify information gaps.
j) Indicate a revision schedule for the EMF.
k) Include any other matters that may be specified.

Once the EMF has been formally adopted, it must be taken into account by the competent authorities when they consider any applications for an Environmental Authorisation that may occur in or may affect the area covered by the EMF.

12.5 Other relevant environmental legislation in South Africa

In recent years, South Africa has gone through a period of intensive environmental law reform in an attempt to harmonise the legislation on natural resources management. The sectors, relevant authorities, titles of the legal instruments and their purpose are summarised in Table 12.5.[18]

Table 12.5: Other potentially applicable sectoral requirements

Environmental component	Responsible agency	Title and date of legislation	Purpose
Water resources (use of)	DEA	National Water Act, No. 36 of 1998, as amended	In terms of sections 21 and 40L, a *Water Use Licence* must be obtained for the abstraction, storage, use, diversion, flow reduction and disposal of water and effluent.
	Catchment Management Agencies	Mountain Catchment Areas Act, No. 63 of 1970	The Act provides for the conservation, use, management and control of land situated in mountain catchment areas.
Effluent (disposal)	DEA: Directorate: Pollution Control	National Water Act Regulations, No. 704 of 1999	Section 7 of the Regulations requires the owner or manager of any undertaking to prevent the pollution or further pollution of water resources, including changes to the physical (e.g. temperature and sediment load) and chemical (e.g. nutrient status) qualities of water for downstream users. The *Water Use Licence* referred to above relates to effluent disposal as well as water use.
		South African Water Quality Guidelines	The Guidelines set out the minimum and threshold standards for effluent quality that need to be met for various downstream user groups, such as domestic use, stock watering or irrigation.
Dam safety	DEA	Chapter 12 of the National Water Act provides for the safety of dams.	A dam with a 'safety risk' is defined as any dam that can contain, store or dam *more than 50 000 m³* of water and that complies with certain other technical specifications relating to height and length of the dam wall, for example. Any such dam must be registered with the DWA. Section 119: An 'owner' of a dam classified as a dam with a safety risk is required to comply with certain directives and regulations of the National Water Act, such as to submit a report on the safety of a dam, to repair or alter the dam, or to appoint an approved professional person to undertake these tasks. An approved professional person has a statutory duty of care towards the state and the public, and must fulfil, among other things, defined responsibilities when acting in terms of the Act.
Air	Municipalities	National Environmental Management: Air Quality Act, No. 39 of 2004, as amended	No listed activity can take place without *an Atmospheric Emission Licence*.
	DMR	Regulation 64 in terms of the MPRDA, No. 28 of 2002, and the Mine Health and Safety Act, No. 29 of 1996	These both relate to dust and fumes from blasting and mining, including quarrying and excavation of borrow materials.
Noise	Local authority (where competent); otherwise, the provincial department of DEA	GN R154 of 10/01/92 contains Regulations regarding noise control made in terms of section 25 of the Environment Conservation Act.	The North West, Limpopo, KwaZulu-Natal, the Northern Cape, the Eastern Cape and Mpumalanga have adopted these.
	DMR	Amended Regulations, based largely on the above Regulation 66 in terms of the MPRDA, No. 28 of 2002, and the Mine Health and Safety Act, No. 29 of 1996	Gauteng, the Free State and the Western Cape have adopted these. These both relate to noise impacts associated with mining and quarrying.

18 Some of the information contained in this table was sourced from Glasewski, J, 2005. *Environmental law in South Africa*. 2nd ed. Durban: LexisNexis Butterworths.

Table 12.5: Other potentially applicable sectoral requirements *(continued)*

Environmental component	Responsible agency	Title and date of legislation	Purpose
Waste	DEA: Directorate: Integrated Pollution Prevention and Waste Management	NEMA, Chapter 1	This Chapter sets out the following principles: precautionary, polluter pays, prevention and duty of care.
		National Environmental Management: Waste Act, No. 59 of 2008	A licence is required to establish and operate a waste disposal site.
		Waste Management Series, DWAF, 1998	This series of guidelines sets out the minimum requirements for a waste disposal site, including hazardous waste. The guidelines must be followed in order to obtain a permit.
	Department of Health	Hazardous Substances Act, No. 15 of 1973, and associated Regulations	The Act aims to control hazardous substances, which are categorised into four groups: Groups I and II relate to toxic substances, Group III relates to electronic products, and Group IV relates to all radioactive substances.
	DMR	Regulation 69 in terms of the MPRDA, No. 28 of 2002, and the Mine Health and Safety Act, No. 29 of 1996	The Regulation relates to the disposal of any waste material from mining or quarrying activities.
Energy	Department of Energy	White Paper on Energy Policy, No. 19606, dated 17/12/98, and White Paper on Renewable Energy, No. 26169, dated 14/05/04 Draft National Energy Bill of 2004	The Energy Bill will be the central legislation regulating the energy sector in South Africa and will give effect to both White Papers.
Planning and zoning	Department of Rural Development and Land Reform (provincial planning authorities are at various stages of drawing up planning legislation for each province)	Development Facilitation Act, No. 67 of 1995	This Act sets out the overall framework and administrative structures for planning. Each province is charged with drawing up Land Development Objectives to guide development in the province. An application to change land use within a municipal region needs to apply in terms of this Act.
Forestry	Department of Agriculture, Forestry and Fisheries	National Forests Act, No. 84 of 1998	Chapter 3 states that a *licence* is required to cut, damage or destroy any listed indigenous tree. Certain tree species may be protected in terms of sections 13–15 of this Act.
Mining and mineral resources	DMR	MPRDA, No. 28 of 2002, and Regulations R527 of 23/04/04	The extraction of any mineral (including the quarrying of sand, stone and gravel) falls within the definition of mining. Any such mining activity requires a *Mining Authorisation* in terms of section 39 of the Act. A separate EIA process must be followed, as per the requirements set out in Part III of the Regulations, until the transitional period is complete in terms of the transfer of responsibility for EIA regulation of mining activities to the DEA.
Blasting, vibration and shock	DMR	MPRDA, No. 28 of 2002, Regulations R527 of 23/04/04, and the Mine Health and Safety Act, No. 29 of 1996	*Permits* are required for blasting.
Wildlife and natural resources	DEA: Directorate: Biodiversity Management	National Environmental Management: Biodiversity Act, No. 10 of 2004, as amended	This Act relates to the management and conservation of biodiversity, the protection of ecosystems and species, the sustainable use of biological resources, and the fair and equitable sharing of biological resources. It also allows for the development of a national biodiversity framework to provide for an integrated, coordinated and uniform approach to the management of biodiversity. The latter has not yet been developed. No Regulations have yet been made, but permits may be required in certain circumstances, e.g. for the collection and translocation of plants from a dam area or the provision of fish ladders.

Table 12.5: Other potentially applicable sectoral requirements *(continued)*

Environmental component	Responsible agency	Title and date of legislation	Purpose
Wildlife and natural resources *(continued)*		Provincial Nature Conservation Ordinances	The management of species diversity is mostly accomplished through provincial nature conservation authorities in terms of the relevant provincial nature conservation Ordinances. The Ordinances mostly distinguish between the conservation of flora and fauna inside and outside provincial reserves.
Conservation	South African National Parks Provincial departments of DEA	National Parks Act, No. 57 of 1956, National Environmental Management: Protected Area Act, No. 57 of 2003, and Regulations on the management of protected areas and World Heritage Sites	These Acts and relevant provincial requirements are relevant if a development is contemplated in a protected area or at a World Heritage Site.
Agriculture	Department of Agriculture, Forestry and Fisheries	Several Acts, including the Conservation of Agricultural Resources Act, No. 43 of 1983, and Regulations, as amended	This Act relates to the control and management of erosion, weeds and invasive species, among other things. Regulation R1048, section 7: Land users are prohibited from removing vegetation in a watercourse, in order to prevent soil erosion, and may only under the authority of a permit drain or cultivate any vlei, marsh or water sponge. Regulation R1048, section 14: Where any activities cause the disturbance or denudation of any land, the landowner is required to restore such land through soil conservation measures. These may include the removal and separation of topsoil to be replaced on the disturbed area. The topography, flow pattern of runoff water and slope must be restored as closely as possible to the original condition.
Agriculture *(continued)*			Suitable vegetation must be established in order to expedite the restoration and reclamation of the land, and suitable soil conservation works may be required to protect the land against excessive soil loss through water or wind erosion. Sections 15 and 16 of the Regulations set out different control measures for combating declared weeds and invader plants specified in three different categories. Category 1 plants are declared weeds, are generally accepted as pests, and must be eradicated from all properties. Category 2 and 3 plants are declared invader plants; separate controls are required for these categories.
Land	Commission on the Restitution of Land Rights	Restitution of Land Rights Act, No. 22 of 1994	The Act is only applicable if the site of any proposed development is the subject of a land claim.
Fisheries	DEA: Directorate: Biodiversity Management	National Environmental Management: Biodiversity Act, No. 10 of 2004	The Biodiversity Act relates to the protection of threatened ecosystems and species. No Regulations have yet been made, but permits may be required in certain circumstances, e.g. for the provision of fish ladders or the clearance of threatened vegetation.
	DWA	National Water Act, No. 36 of 1998, as amended	The ecological reserve is provided for in Chapter 3 of the Act, which states that basic human needs and the ecological needs of rivers shall enjoy priority of use by right. The use of water for all other purposes is subject to authorisation through a *Water Use Licence* (see above). Therefore, the needs of fish (spawning, migration, habitat, etc.) must be taken into account in the design and operational management of any development that may affect the flow of water in a river.

Table 12.5: Other potentially applicable sectoral requirements *(continued)*

Environmental component	Responsible agency	Title and date of legislation	Purpose
Roads	Department of Transport, South African National Roads Agency		An EIA is required for any new road, as per the EIA Regulations referred to above.
Archaeological, historical and cultural	Department of Arts and Culture or provincial agencies (where competent) (only KwaZulu-Natal and the Western Cape have such agencies)	National Heritage Resources Act, No. 25 of 1999	Section 38(1) requires a developer to notify the responsible authority if s/he is to undertake an activity that may have an impact on the heritage resources of an area. Section 38(2) stipulates that an impact assessment report may be required, compiled by an approved and qualified heritage specialist. Section 34: No person may alter or demolish any structure or part of a structure that is older than 60 years without a permit issued by the relevant provincial heritage resources authority. Section 35: No person may, without a permit issued by the responsible heritage resources authority, destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or paleontological site. Section 36: No person may, without a permit issued by the South African Heritage Resource Agency or a provincial heritage resources authority, destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years, which is situated outside a formal cemetery administered by a local authority.
		World Heritage Convention Act, No. 49 of 1999	This Act applies to any development contemplated at a declared World Heritage Site.

Appendix 12-1

List of projects requiring a Basic Assessment

The activities listed in Listing Notice 1 for which a *Basic Assessment* is required in terms of sections 24(2)(a) and (d) of the NEMA, as promulgated in *Government Notice R544*,[19] are listed below.

1. The construction of facilities or infrastructure for the generation of electricity, where the electricity output is more than 10 MW but less than 20 MW, or where the output is 10 MW or more but the total extent of the facility covers an area of >1 ha.

2. The construction of facilities or infrastructure for the storage of ore or coal that requires an Atmospheric Emissions Licence in terms of the National Environmental Management: Air Quality Act.

3. The construction of facilities or infrastructure for the slaughter of animals with a product throughput of poultry exceeding 50 poultry per day, or game and red meat exceeding 6 units per day.

4. The construction of facilities or infrastructure for the concentration of animals for the purpose of commercial production in densities that exceed:
   i. 20 m^2 per large stock unit and >500 units per facility;
   ii. 8 m^2 per small stock unit and >1000 units per facility, excluding pigs, or > 250 pigs per facility, excluding piglets that are not yet weaned;
   iii. 30 m^2 per crocodile at any level of production, excluding crocodiles younger than six months;
   iv. 3 m^2 per rabbit and more than 500 rabbits per facility; or
   v. 250 m^2 per ostrich or emu and more than 50 ostriches per facility or 2500 m^2 per breeding pair.

5. The construction of facilities or infrastructure for the concentration of:
   i. >1000 poultry per facility situated within an urban area, excluding chicks younger than 20 days; or
   ii. >5000 poultry per facility situated outside an urban area, excluding chicks younger than 20 days.

6. The construction of facilities, infrastructure or structures for aquaculture of:
   i. finfish, crustaceans, reptiles or amphibians, where such facility, infrastructure or structures will have a production output exceeding 20 000 kg but less than 200 000 kg per year (wet weight);

19 Gazetted in June 2010 and came into effect on 2 August 2010.

ii. molluscs, where such facility, infrastructure or structures will have a production output exceeding 30 000 kg but not exceeding 150 000 kg per year (wet weight);
iii. aquatic plants, where such facility, infrastructure or structures will have a production output exceeding 60 000 kg but not exceeding 200 000 kg per year (wet weight),

excluding where the construction of facilities, infrastructure or structures is for purposes of offshore cage culture, in which case activity 7 in this Notice will apply.

7. The construction of facilities, infrastructure or structures for aquaculture of offshore cage culture of finfish, crustaceans, reptiles, amphibians, molluscs and aquatic plants, where the facility, infrastructure or structures will have a production output exceeding 50 000 kg but not exceeding 100 000 kg per year (wet weight).

8. The construction of a hatchery or agri-industrial infrastructure outside industrial complexes, where the development footprint covers an area of 2000 m^2 or more;

9. The construction of facilities or infrastructure exceeding 1000 m in length for the bulk transportation of water, sewage or storm water with:
   i. an internal diameter of 0.36 m or more; or
   ii. a peak throughput of 120 litres per second or more,

   excluding where such facilities or infrastructure are for bulk transportation of water, sewage or storm water drainage inside a road reserve, or where such construction will occur within urban areas but further than 32 m from the edge of a watercourse.

10. The construction of facilities or infrastructure for the transmission and distribution of electricity outside urban areas or industrial complexes with a capacity of >33 kV but <120 kV, or inside urban areas or industrial complexes with a capacity of >275 kV.

11. The construction of:
   i. canals;
   ii. channels;
   iii. bridges;
   iv. dams;
   v. weirs;
   vi. bulk storm water outlet structures;
   vii. marinas;
   viii. jetties >50 m^2 in size;

ix. slipways >50 m^2 in size; or
x. infrastructure or structures >50 m^2,

within a watercourse or within 32 m from the edge of a watercourse.

12. The construction of facilities or infrastructure for the off-stream storage of water, including dams and reservoirs, with a combined capacity of 50 000 m^3 or more, unless such storage falls within the ambit of activity 19 of Notice 545 of 2010.

13. The construction of facilities or infrastructure for the storage or for the storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of 80 m^3 but not exceeding 500 m^3.

14. The construction of structures in the coastal public property, where the development footprint is bigger than 50 m^2, excluding:
   i. the construction of structures within existing ports or harbours that will not increase the development footprint or throughput capacity of the port or harbour;
   ii. the construction of a port or harbour, in which case activity 24 of Notice 545 of 2010 applies; or
   iii. the construction of temporary structures within the beach zone, where such structures will be demolished or disassembled after a period not exceeding six weeks.

15. The construction of facilities for the desalination of seawater with a design capacity to produce >100 m^3 of water per day.

16. Construction or earth moving activities in the sea or an estuary, or within the littoral active zone or a distance of 100 m inland of the high-water mark of the sea or an estuary, whichever is greater, in respect of:
   i. fixed or floating jetties and slipways;
   ii. tidal pools;
   iii. embankments;
   iv. rock revetments or structures including stabilising walls;
   v. buildings of >50 m^2; or
   vi. infrastructure covering >50 m^2, but excluding:

   a) if such construction or earth moving activities will occur behind a development setback line; or
   b) where such construction or earth moving activities will occur within existing ports or harbours and the construction or earth moving activities will not increase the development footprint or throughput capacity of the port or harbour;

c) where such construction or earth moving activities is undertaken for purposes of maintenance of the facilities mentioned in (i)–(vi) above; or
d) where such construction or earth moving activities is related to the construction of a port or harbour, in which case activity 24 of Notice 545 of 2010 applies.

17. The planting of vegetation or placing of any material on dunes and expose d sand surfaces within the littoral active zone, for the purpose of preventing the free movement of sand, erosion or accretion, excluding where the planting of vegetation or placement of material relates to restoration and maintenance of indigenous coastal vegetation or where such planting of vegetation or placing of material will occur behind a development setback line.

18. The infilling or depositing of any material exceeding 5 m^3 into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 m^3 from:
    i. a watercourse;
    ii. the sea;
    iii. the seashore;
    iv. the littoral active zone, an estuary or a distance of 100 m inland of the high-water mark of the sea or estuary, whichever is greater,

    excluding where such infilling, depositing, dredging, excavation, removal or moving is for maintenance purposes undertaken in accordance with a management plan agreed to by the relevant environmental authority; or occurs behind the development setback line.

19. Any activity requiring a prospecting right or renewal thereof in terms of sections 16 and 18 respectively of the Mineral and Petroleum Resources Development Act, No. 28 of 2002.

20. Any activity requiring a mining permit in terms of section 27 of the Mineral and Petroleum Resources Development Act, No. 28 of 2002, or renewal thereof.

21. The establishment of cemeteries of >2500 m^2 in size.

22. The construction of a road outside an urban area with a reserve that is wider than 13.5 m or, where no reserve exists, where the road is wider than 8 m or for which an environmental authorisation was obtained for the route determination in terms of activity 5 in Government Notice 387 of 2006 or in Notice 545 of 2010.

23. The transformation of undeveloped, vacant or derelict land to:
    i. residential, retail, commercial, recreational, industrial or institutional use inside an urban area and where the total area to be transformed is 5 ha or more, but less than 20 ha; or
    ii. residential, retail, commercial, recreational, industrial or institutional use outside an urban area and where the total area to be transformed is bigger than 1 ha, but less than 20 ha,

    except where such transformation takes place for linear activities.

24. The transformation of land bigger than 1000 m^2 in size to residential, retail, commercial, industrial or institutional use, where, at the time of the coming into effect of this Schedule, such land was zoned open space or conservation, or had an equivalent zoning.

25. The release of genetically modified organisms into the environment, where assessment for such releases is required by the Genetically Modified Organisms Act, No. 15 of 1997, or the National Environmental Management: Biodiversity Act, No. 10 of 2004.

26. Any process or activity identified in terms of section 53(1) of the National Environmental Management: Biodiversity Act, No. 10 of 2004.

27. The decommissioning of existing facilities or infrastructure, for:
    i. electricity generation with a threshold of >10 MW;
    ii. electricity transmission and distribution with a threshold of >132 kV;
    iii. nuclear reactors and storage of nuclear fuel;
    iv. activities where the facility or the land on which it is located is contaminated; or
    v. storage, or storage and handling, of dangerous goods of >80 m^3,

    but excluding facilities or infrastructure that commenced under an Environmental Authorisation issued in terms of the Environmental Impact Assessment Regulations, 2006, made under section 24(5) of the Act and published in Government Notice No. R385 of 2006 or Notice 543 of 2010.

28. The expansion of or changes to existing facilities for any process or activity, where such expansion will result in the need for a permit or licence in terms of national or provincial legislation governing the release of emissions or pollution, excluding where the facility, process or activity is included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, No. 59 of 2008, in which case that Act will apply.

29. The expansion of facilities for the generation of electricity where:
    i. the electricity output will be increased by 10 MW or more, excluding where such expansion takes place on the original development footprint; or
    ii. regardless of the increased output of the facility, the development footprint will be expanded by 1 ha or more.

30. The expansion of facilities for the slaughter of animals, where the daily product throughput will be increased by more than:
    i. 50 poultry; or
    ii. Six units of red meat and game.

31. The expansion of facilities for the concentration of animals for the purpose of commercial production in densities that will exceed:
    i. 20 m^2 per large stock unit, where the expansion will constitute more than 500 additional units;
    ii. 8 m^2 per small stock, where the expansion will constitute more than:
        a) 1000 additional units per facility or more, excluding pigs where (b) will apply; or
        b) 250 additional pigs, excluding piglets that are not yet weaned;
    iii. 30 m^2 per crocodile at any level of production, where the expansion will constitute an increase in the level of production, excluding crocodiles younger than 6 months;
    iv. 3 m^2 per rabbit, where the expansion will constitute more than 500 additional rabbits; or
    v. 250 m^2 per ostrich or emu, where the expansion will constitute more than 50 additional ostriches or emus; and
    vi. 2500 m^2 per breeding pair, where the facility will be increased by 2500 m^2 or more.

32. The expansion of facilities for the concentration of poultry, excluding chicks younger than 20 days, where the capacity of the facility will be increased by:
    i. more than 1000 poultry, where the facility is situated within an urban area; or
    ii. more than 5000 poultry per facility situated outside an urban area.

33. The expansion of facilities, infrastructure or structures for aquaculture of:
    i. finfish, crustaceans, reptiles or amphibians, where the production output of such facility, infrastructure or structures will be increased by 20 000 kg (wet weight) or more;
    ii. molluscs, where the production output of such facility, infrastructure or structures will be increased by 30 000 kg (wet weight) or more;
    iii. aquatic plants, where the production output of such facility, infrastructure or structures will be increased by 60 000 kg (wet weight) or more.

34. The expansion of facilities, infrastructure or structures for aquaculture of offshore cage culture of finfish, crustaceans, reptiles, amphibians, molluscs and aquatic plants, where the production output of such facility, infrastructure or structures will be increased by 50 000 kg (wet weight) or more.

35. The expansion of facilities for agri-industrial purposes outside industrial complexes, where the development footprint of the facility will be increased by 1000 m^2 or more, with the exception of hatcheries, where activity 36 in this Notice applies.

36. The expansion of hatcheries, outside industrial complexes, where the development footprint of the hatchery will be increased by 2000 m^2 or more.

37. The expansion of facilities or infrastructure for the bulk transportation of water, sewage or storm water, where:
    i. the facility or infrastructure is expanded by more than 1000 m in length; or
    ii. where the throughput capacity of the facility or infrastructure will be increased by 10% or more,

    excluding where such expansion relates to transportation of water, sewage or storm water within a road reserve, or where such expansion will occur within urban areas but further than 32 m from a watercourse, measured from the edge of the watercourse.

38. The expansion of facilities for the transmission and distribution of electricity, where the expanded capacity will exceed 275 kV and the development footprint will increase.

39. The expansion of:
    i. canals;
    ii. channels;
    iii. bridges;
    iv. weirs;
    v. bulk storm water outlet structures; or
    vi. marinas,

    within a watercourse or within 32 m of a watercourse, measured from the edge of a watercourse, where such expansion will result in an increased

development footprint but excluding where such expansion will occur behind the development setback line.

40. The expansion of:
    i. jetties by more than 50 m^2;
    ii. slipways by more than 50 m^2;
    iii. buildings by more than 50 m^2; or
    iv. infrastructure by more than 50 m^3,

    within a watercourse or within 32 m of a watercourse, measured from the edge of a watercourse, but excluding where such expansion will occur behind the development setback line.

41. The expansion of facilities or infrastructure for the off-stream storage of water, including dams and reservoirs, where the combined capacity will be increased by 50 000 m^3 or more.

42. The expansion of facilities for the storage or storage and handling of a dangerous good, where the capacity of such storage facility will be expanded by 80 m^3 or more.

43. The expansion of structures in the coastal public property, where the development footprint will be increased by more than 50 m^2, excluding such expansions within existing ports or harbours where there would be no increase in the development footprint or throughput capacity of the port or harbour.

44. The expansion of facilities for the desalination of seawater, where the design capacity will be expanded to produce an additional 100 m^3 or more of treated water per day.

45. The expansion of facilities in the sea, an estuary, or within the littoral active zone or a distance of 100 m inland of the high-water mark of the sea or an estuary, whichever is the greater, for:
    i. fixed or floating jetties and slipways;
    ii. tidal pools;
    iii. embankments;
    iv. rock revetments or stabilising structures, including stabilising walls;
    v. buildings by more than 50 m^2;
    vi. infrastructure by more than 50 m^2;
    vii. facilities associated with the arrival and departure of vessels and the handling of cargo;
    viii. piers;
    ix. inter- and sub-tidal structures for entrapment of sand;
    x. breakwater structures;
    xi. coastal marinas;
    xii. coastal harbours or ports;
    xiii. structures for draining parts of the sea or estuary;
    xiv. tunnels; or
    xv. underwater channels,

    where such expansion will result in an increase in the development footprint of such facilities, but excluding where such expansion occurs behind a development setback line, or within existing ports or harbours where there will be no increase in the development footprint or throughput of the port or harbour.

46. The expansion of cemeteries by an additional 2500 m^2 or more.

47. The widening of a road by more than 6 m or the lengthening of a road by more than 1 km:
    i. where the existing reserve is wider than 13.5 m; or
    ii. where no reserve exists, where the existing road is wider than 8 m,

    excluding widening or lengthening occurring inside urban areas.

48. The expansion of facilities for the refining, extraction or processing of petroleum products, where the installed capacity of the facility will be increased by >50 m^3 per day, excluding facilities for the refining, extraction or processing of gas from landfill sites.

49. The expansion of facilities or infrastructure for the bulk transportation of dangerous goods:
    i. in gas form, outside an industrial complex, by an increased throughput of capacity of 700 tons or more per day;
    ii. in liquid form, outside an industrial complex or zone, by an increased throughput capacity of 50 m^3 or more per day; or
    iii. in solid form, outside an industrial complex or zone, by an increased throughput capacity of 50 tons or more per day.

50. The expansion of airports, where the development footprint will be increased.

51. The expansion of facilities or infrastructure for marine telecommunication, where there will be an increased development footprint.

52. The expansion of facilities or infrastructure for the transfer of water from and to or between any combination of the following:
    i. water catchments;
    ii. water treatment works; or
    iii. impoundments,

where the capacity will be increased by >50 000 m^3 per day, but excluding water treatment works where water is treated for drinking purposes.

53. The expansion of railway lines, stations or shunting yards, where there will be an increased development footprint, but excluding:
    i. railway lines, shunting yards and railway stations in industrial complexes or zones;
    ii. underground railway lines in mines; and
    iii. additional railway lines within the reserve of an existing railway line.

54. The expansion of an island, anchored platform or any other permanent structure on or along the seabed, where the expansion will constitute an increased development footprint.

55. The expansion of a dam where:
    i. the highest part of the dam wall, as measured from the outside toe of the wall to the highest part of the wall, was originally 5 m or higher and where the height of the wall is increased by 2.5 m or more; or
    ii. where the high-water mark of the dam will be increased by 10 ha or more.

56. Phased activities for all activities listed in this Schedule, which commenced on or after the effective date of this Schedule, where any one phase of the activity may be below a threshold but where a combination of the phases, including expansions or extensions, will exceed a specified threshold; excluding the following activities listed in this Schedule:

    2, 11(i)–(vii), 16(i)–(iv), 17, 19, 20, 22(i), 22(iii), 25, 26, 27(iii)–(iv), 28, 39, 45(i)–(iv) and (vii)–(xv), 50, 51, 53, 54.

Appendix 12-2

List of projects requiring an EIA

The activities for which an EIA is required in terms of section 24(2)(a) and (d) of the NEMA, as promulgated in *Government Notice R545*,[20] are listed below.

1. The construction of facilities or infrastructure, including associated structures or infrastructure, for the generation of electricity, where the electricity output is 20 MW or more.

2. The construction of facilities or infrastructure for nuclear reaction, including energy generation and the production, enrichment, processing, reprocessing, storage or disposal of nuclear fuels, radioactive products and nuclear and radioactive waste;

3. The construction of facilities or infrastructure for the storage or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of 500 m^3.

4. The construction of facilities or infrastructure for the refining, extraction or processing of gas, oil or petroleum products with an installed capacity of >50 m^3 per day, excluding facilities for the refining, extraction or processing of gas from landfill sites.

5. The construction of facilities or infrastructure for any process or activity that requires a permit or licence in terms of national or provincial legislation governing the generation or release of emissions, pollution or effluent and that is not identified in Government Notice No. R544 of 2010 or included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, No. 59 of 2009, in which case that Act will apply.

6. The construction of facilities or infrastructure for the bulk transportation of dangerous goods:
    i. in gas form, outside an industrial complex, using pipelines exceeding 1000 m in length, with a throughput capacity of more than 700 tons per day;
    ii. in liquid form, outside an industrial complex, using pipelines exceeding 1000 m in length, with a throughput capacity more than 50 m^3 per day; or

20 Gazetted in June 2010 and came into effect on 2 August 2010.

iii. in solid form, outside an industrial complex, using funiculars or conveyors with a throughput capacity of more than 50 tons day.

7. The construction of:
   i. airports;
   ii. runways; or
   iii. aircraft landing strips longer than 1.4 km.

8. The construction of facilities or infrastructure for the transmission and distribution of electricity with a capacity of 275 kV or more, outside an urban area or industrial complex.

9. The construction of facilities or infrastructure for marine telecommunication.

10. The construction of facilities or infrastructure for the transfer of >50 000 m^3 water per day, from and to or between any combination of the following:
    i. water catchments;
    ii. water treatment works; or
    iii. impoundments,

    excluding treatment works where water is to be treated for drinking purposes.

11. The construction of railway lines, stations or shunting yards, excluding:
    i. railway lines, shunting yards and railway stations in industrial complexes or zones;
    ii. underground railway lines in a mining area; and
    iii. additional railway lines within the reserve of an existing railway line.

12. The construction of facilities, infrastructure or structures for aquaculture of:
    i. finfish, crustaceans, reptiles or amphibians, where the facility, infrastructure or structures will have a production output of >200 000 kg per year (live round weight);
    ii. molluscs, where such facility, infrastructure or structures will have a production output exceeding 150 000 kg per year (live round weight);
    iii. aquatic plants, where such facility, infrastructure or structures will have a production output of >200 000 kg per year (live round weight),

    excluding where the construction of facilities, infrastructure or structures is for purposes of offshore cage culture, in which case activity 13 in this Notice will apply.

13. The construction of facilities, infrastructure or structures for aquaculture of offshore cage culture of finfish, crustaceans, reptiles, amphibians, molluscs and aquatic plants, where the facility, infrastructure or structures will have a production output of >100 000 kg per year (live round weight).

14. The construction of an island, anchored platform or any other permanent structure on or along the seabed, excluding the construction of facilities, infrastructure or structures for aquaculture purposes.

15. Physical alteration of undeveloped, vacant or derelict land for residential, retail, commercial, industrial or institutional use, where the total area to be transformed is >20 ha, except where such physical alteration takes place for:
    i. linear development activities;
    ii. agriculture or afforestation, where activity 16 in this Schedule will apply.

16. The physical alteration of virgin soil to agriculture or afforestation for the purposes of commercial tree, timber or wood production of >100 ha.

17. The extraction or removal of peat or peat soils, including the disturbance of vegetation or soils in anticipation of the extraction or removal of peat or peat soils.

18. The route determination of roads and design of associated physical infrastructure, including roads that have not yet been built for which routes had been determined before 3 July 2006 and that have not been authorised by a competent authority in terms of the Environmental Impact Assessment Regulations, 2006 or 2009, made under section 24(5) of the Act and published in Government Notice No. R385 of 2006, where:
    i. it is a national road as defined in section 40 of the South African National Roads Agency Limited and National Roads Act, No. 7 of 1998;
    ii. it is a road administered by a provincial authority;
    iii. the road reserve is wider than 30 m; or
    iv. the road will cater for more than one lane of traffic in both directions.

19. The construction of a dam, where the highest part of the dam wall, as measured from the outside toe of the wall to the highest part of the wall, is 5 m or higher, or where the high-water mark of the dam covers an area of 10 ha or more.

20. Any activity that requires a mining right or renewal thereof, as contemplated in sections 22 and 24 respectively of the Mineral and Petroleum Resources Development Act, No. 28 of 2002.

21. Any activity that requires an exploration right or renewal thereof, as contemplated in sections 79 and 81 respectively of the Mineral and Petroleum Resources Development Act, No. 28 of 2002.

22. Any activity that requires a production right or renewal thereof, as contemplated in sections 83 and 85 respectively of the Mineral and Petroleum Resources Development Act, No. 28 of 2002.

23. Any activity that requires a reconnaissance permit as contemplated in section 74 of the Mineral and Petroleum Resources Development Act, No. 28 of 2002, excluding where such reconnaissance is conducted by means of a flyover.

24. Construction or earth moving activities in the sea, an estuary, or within the littoral active zone or a distance of 100 m inland of the high-water mark of the sea or an estuary, whichever distance is greater, in respect of:
    i. facilities associated with the arrival and departure of vessels and the handling of cargo;
    ii. piers;
    iii. inter- and sub-tidal structures for entrapment of sand;
    iv. breakwater structures;
    v. coastal marinas;
    vi. coastal harbours or ports;
    vii. structures for reclaiming parts of the sea;
    viii. tunnels; or
    ix. underwater channels,

    but excluding:
    a) activities listed in activity 16 in Notice 544 of 2010;
    b) construction or earth moving activities, if such construction or earth moving activities will occur behind a development setback line;
    c) where such construction or earth moving activities will occur in existing ports or harbours where there will be no increase of the development footprint or throughput capacity of the port or harbour; or
    d) where such construction or earth moving activities takes place for maintenance purposes.

25. The expansion of facilities for nuclear reaction, including energy generation and the production, enrichment, processing, reprocessing, storage or disposal of nuclear fuels, radioactive products and nuclear and radioactive waste.

26. Commencing of an activity that requires an Atmospheric Emissions Licence in terms of section 21 of the National Environmental Management: Air Quality Act, No 39 of 2004, except where such commencement requires a Basic Assessment in terms of Notice No. R544 of 2010.

Appendix 12-3

Listing Notice 3

The purpose of this Notice[21] is to list activities and identify competent authorities under sections 24(2), 24(5) and 240 of the NEMA, 1998, where Environmental Authorisation is required before commencement of that activity in specific identified geographical areas only.

If the reader wishes to construct or install any of the following, they should consult Listing Notice 3 for the province, and area within the province, which may require them to obtain an Environmental Authorisation.

1. The construction of billboards exceeding 18 m^2 in size outside urban or mining areas or outside industrial complexes.

2. The construction of reservoirs for bulk water supply with a capacity of more than 250 m^3.

3. The construction of masts or towers of any material or type used for telecommunication broadcasting or radio transmission purposes, where the mast:
    a) is to be placed on a site not previously used for this purpose; and
    b) will exceed 15 m in height, but excluding attachments to existing buildings and masts on rooftops.

4. The construction of a road wider than 4 m with a reserve less than 13.5 m.

5. The construction of resorts, lodges or other tourism accommodation facilities that sleep less than 15 people.

6. The construction of resorts, lodges or other tourism accommodation facilities that sleep 15 people or more.

7. The conversion of existing structures to resorts, lodges or tourism accommodation facilities that sleep 15 people or more.

8. The construction of aircraft landing strips and runways 1.4 km or less.

9. The construction of above ground cableways and funiculars.

10. The construction of facilities or infrastructure for the storage or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of 30 m^3 but not exceeding 80 m^3.

21 Listing Notice 3 came into effect on 2 August 2010.

11. The construction of tracks or routes for the testing, recreational use or outdoor racing of motor-powered vehicles, excluding conversion of existing tracks or routes for the testing, recreational use or outdoor racing of motor-powered vehicles.

12. The clearance of an area 300 m^2 or more of vegetation, where 75% or more of the vegetative cover constitutes indigenous vegetation.

13. The clearance of an area of >1 ha of vegetation, where 75% or more of the vegetative cover constitutes indigenous vegetation, except where such removal of vegetation is required for:
    a) the undertaking of a process or activity included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, No. 59 of 2008, in which case the activity is regarded to be excluded from this list.
    b) the undertaking of a linear activity falling below the thresholds mentioned in Listing Notice 1 in terms of GN No. 544 of 2010.

14. The clearance of an area of >5 ha of vegetation, where 75% or more of the vegetative cover constitutes indigenous vegetation, except where such removal of vegetation is required for:
    a) purposes of agriculture or afforestation inside areas identified in spatial instruments adopted by the competent authority for agriculture or afforestation purposes;
    b) the undertaking of a process or activity included in the list of waste management activities published in terms of section 19 of the National Environmental Management Waste Act, No. 59 of 2008, in which case the activity is regarded to be excluded from this list; and
    c) the undertaking of a linear activity falling below the thresholds in Notice 544 of 2010.

15. The construction of facilities, infrastructure or structures of any size for any form of aquaculture.

16. The construction of:
    a) jetties exceeding 10 m^2 in size;
    b) slipways exceeding 10 m^2 in size;
    c) buildings with a footprint exceeding 10 m2 in size; or
    d) infrastructure covering 10 m^2 or more;

    where such construction occurs within a watercourse or within 32 m of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.

17. The expansion of reservoirs for bulk water supply, where the capacity will be increased by more than 250 m^3.

18. The expansion of a resort, lodge, hotel and tourism or hospitality facilities, where the footprint will be expanded.

19. The widening of a road by more than 4 m or the lengthening of a road by more than 1 km.

20. The expansion of runways or aircraft landing strips, where the expanded landing strips will be longer than 1.4 km in length.

21. The expansion of above ground cableways and funiculars, where the development footprint will be increased.

22. The expansion of tracks or routes for the testing, recreational use or outdoor racing of motor-powered vehicles, excluding conversion of existing tracks or routes for the testing, recreational use or outdoor racing of motor-powered vehicles, where the development footprint will be expanded.

23. The expansion of facilities or infrastructure for the storage or storage and handling of a dangerous good, where such storage facilities will be expanded by 30 m^3 or more but less than 80 m^3.

24. The expansion of >10 m^2 of the following:
    a) jetties;
    b) slipways;
    c) buildings;
    d) infrastructure,

    where such construction occurs within a watercourse or within 32 m of the edge of a watercourse, excluding where such construction will occur behind the development set back line.

25. The expansion of facilities, infrastructure or structures of any size for any form of aquaculture.

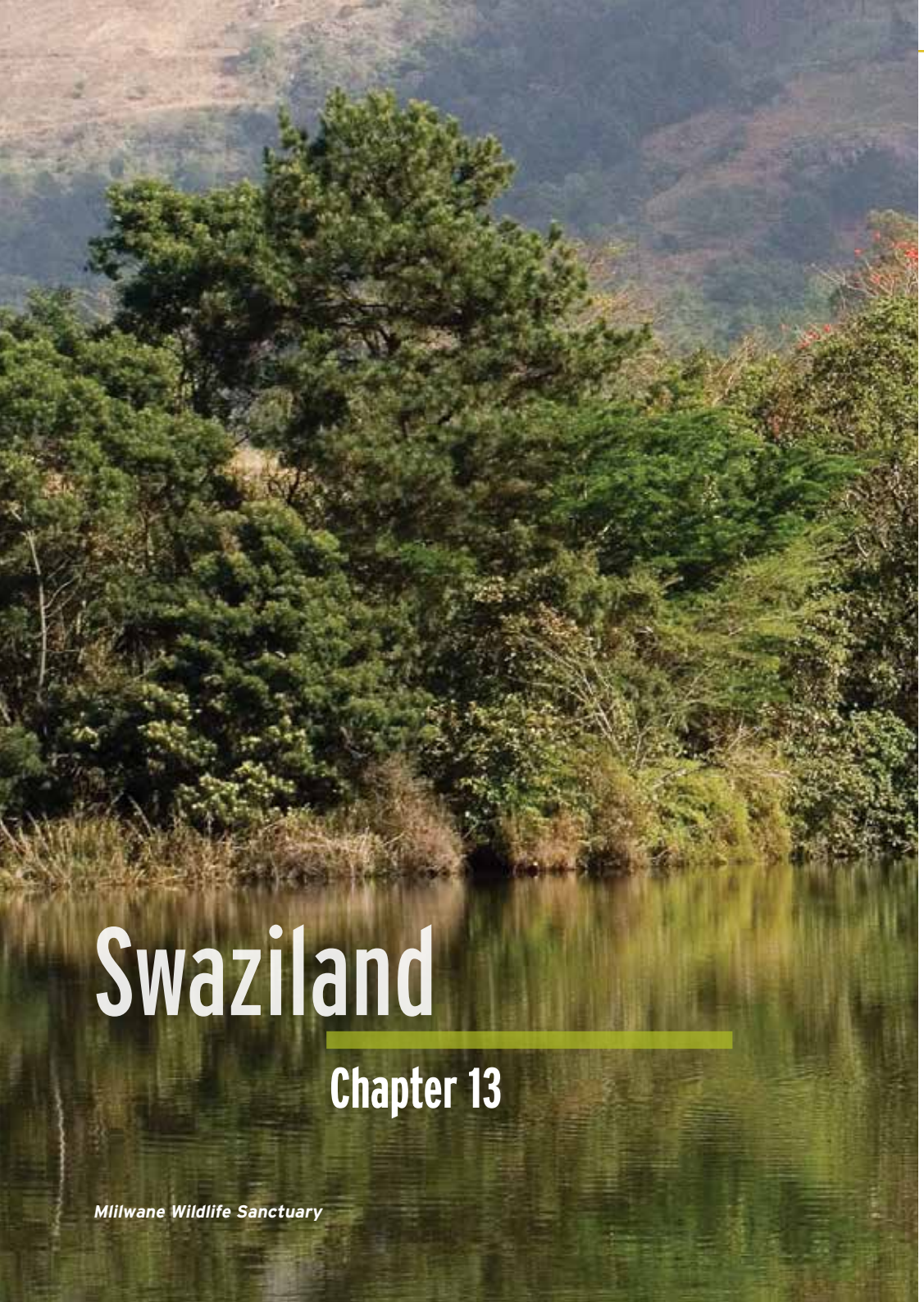
26. Phased activities for all activities listed in this Schedule and as it applies to a specific geographical area, which commenced on or after the effective date of this Schedule, where any phase of the activity may be below a threshold but where a combination of the phases, including expansions or extensions, will exceed a specified threshold.

Acronyms

BAR	Basic Assessment Report
DEA	Department of Environmental Affairs
DMR	Department of Mineral Regulation
DWA	Department of Water Affairs (new)
DWAF	Department of Water Affairs and Forestry (old)
EAPASA	Environmental Assessment Practitioners Association of South Africa
EIA	environmental impact assessment
EMF	environmental management framework
EMP	environmental management programme
MEC	Member of the Executive Committee (head of provincial government department)
MPRDA	Minerals and Petroleum Resources Development Act
NEMA	National Environmental Management Act, No. 107 of 1998, as amended
SADC	Southern African Development Community

Useful contacts

Department	Contact	Telephone	Fax	Website / Email
National Department of Environmental Affairs and Tourism				
Minister	E Molewa	+27 21 464 1500 +27 12 336 8733	+27 21 465 3362 +27 12 336 7817	www.environment.gov.za mthembun@dwaf.gov.za
Director-General Environment	N Ngcaba	+27 12 310 3960	-	nngcaba@environment.gov.za
Environmental Quality and Protection	I Abader	+27 12 310 3391	+27 12 322 1936	iabader@environment.gov.za
Oceans and Coasts	M Mayekiso	+27 21 819 2410	+27 21 819 2444	mmayekiso@environment.gov.za
Biodiversity and Conservation	F Mketeni	+27 12 310 3314	+27 12 320 6620	fmketeni@environment.gov.za
Chief Operating Officer	L McCourt	+27 12 310 3853	+27 12 320 1135	lmccourt@environment.gov.za
Provincial departments				
Eastern Cape Department of Economic Development and Environmental Affairs	Head of Department: B Nelana	+27 43 605 7004	+27 43 605 7304	www.dedea.gov.za fezeka.boyi@deaet.ecape.gov.za
Free State Department of Economic Development, Tourism and Environmental Affairs	Chief Director: Environmental Affairs: B Mathebula	+27 51 400 4917	+27 51 400 9523	www.dteea.fs.gov.za pulenim@dteea.fs.gov.za
Gauteng Department of Agriculture and Rural Development	Head of Department: S Sekgobela	+27 11 355 1225	+27 11 333 1239	www.gdard.gpg.gov.za
KwaZulu-Natal Department of Agriculture, Environmental Affairs and Rural Development	Head of Department: S Mkhize	+27 33 355 9690	+27 33 355 9293	www.kzndae.gov.za hodpa@kzndae.gov.za
Limpopo Department of Economic Development, Environment and Tourism	Head of Department: M Broderick	+27 15 293 8300	+27 15 293 8319	www.ledet.gov.za
Mpumalanga Department of Economic Development, Environment and Tourism	Head of Department: V Dlamini	+27 13 766 4179	-	www.mpumalanga.gov.za
Northern Cape Department of Environmental Affairs and Nature Conservation	Head of Department: D van Heerden	+27 53 807 7300	+27 53 807 7328	www.denc.ncpg.gov.za
North West Department of Economic Development, Environment, Conservation and Tourism	Head of Department: M Nale	+27 18 387 7700	+27 21 483 4185	www.nwpg.gov.za
Western Cape Department of Environmental Affairs and Development Planning	Acting Head of Department: T Gildenhuys	+27 21 483 4790	-	www.capegateway.gov.za theo.gildenhuys@pgwc.gov.za



Swaziland

Chapter 13

Mlilwane Wildlife Sanctuary

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Swaziland

13.1 National vision for environmental protection in Swaziland

The Government of Swaziland has formulated several policies, strategies and action plans aimed at achieving sustainable development in the country. Among these are the National Development Strategy,[1] the Economic and Social Reform Agenda, and the Poverty Reduction Strategy and Action Plan. The National Development Strategy outlines the country's development goals for 25 years, starting in 1997.[2] Its main vision is that:

> *By the year 2022, the Kingdom of Swaziland will be in the top 10% of the medium human development group of countries founded on sustainable economic development, social justice and political stability.*

One of the main priorities identified in the National Development Strategy is environmental management, which is viewed as an important and necessary condition for the attainment of sustainable development.

The Economic and Social Reform Agenda is a programme of action that sets target dates for the completion of tasks that are necessary for the economic and social development of the country. Initiated by the Office of the Prime Minister, this ongoing process entered its third phase in May 2002, which is known as the Millennium Action Programme. This initiative demonstrates the government's commitment to improving the country's economic and social development.[3]

13.2 Institutional and administrative structure for environmental impact assessment in Swaziland

13.2.1 Swaziland Environment Authority

The main institutions involved in the management of environmental impact assessment (EIA) are the Swaziland Environment Authority (SEA), the Ministry of Tourism and Environmental Affairs (MTEA) and the municipalities. Originally created by an Act of Parliament in 1992, the SEA is directed by a Management Board,[4] which sets policy priorities. The format, protocols and procedures of the Authority are set out in detail in the First Schedule of the Act. The SEA initiated a process to become an autonomous body, which operates outside of government but still largely depends on government funding.[5] This process was finalised with the enactment of the Environment Management Act (EMA), No. 5 of 2002, which establishes the SEA as a body corporate with perpetual succession. The organisational structure of the SEA is shown in Figure 13.1.

13.2.2 Intersectoral cooperation

Intersectoral cooperation takes place through several government committees, one of the most important of which is the Planning and Budgeting Committee. The Committee comprises Principal Secretaries of the Ministry of Finance, the MTEA and the Ministry of Public Works and Transport. Ideally, only projects that satisfy the government's objectives of sustainable development and environmental management are allocated funding.[6]

The MTEA may only appraise government projects if they incorporate a description of likely environmental impacts and the estimated cost of EIA studies. Otherwise, the projects should not be considered for inclusion in the national budget. The form for requesting government funding was revised (in 2001) to be in line with the latest Environmental Audit, Assessment and Review Regulations. This means that the applicant must include in his/her request a section on likely environmental impacts, as well as a cost estimate for any EIA that may be required.

Intersectoral cooperation within the government could be further improved through the involvement of the SEA in other policy initiatives and strategies that are relevant to sustainable development, such as the development of the Poverty Reduction Strategy, where involvement of the SEA was apparently lacking.[7]

1 Government of Swaziland, 1999. *National Development Strategy – Vision 2022: Key macro and sectoral strategies*. Mbabane: Government of Swaziland.
2 Even though the document was finalised in 1999, it states that it aims to make the changes from when it was initiated in 1997.
3 Keatimilwe, K & Mlangeni, J, 2003. Country Chapter: Swaziland. In: SAIEA (Southern African Institute for Environmental Assessment). *EIA in southern Africa*. Windhoek: SAIEA.
4 The Board comprises a Chairperson appointed by the Minister of Tourism and Environmental Affairs, as well as the Principal Secretaries from the following ministries: Agriculture and Cooperatives, Finance, and Natural Resources and Energy. Other members of the Board include two representatives from non-governmental organisations, two private citizens knowledgeable in environmental matters, and the Director of the SEA, who also serves as the Board Secretary.
5 Keatimilwe & Mlangeni, 2003.
6 Keatimilwe & Mlangeni, 2003.
7 Keatimilwe & Mlangeni, 2003.

Figure 13.1: Organisational diagram of the Swaziland Environment Authority

Because of inadequate environmental management skills, the MTEA, other line ministries and the private sector currently rely excessively on the SEA for project screening and categorisation.

13.2.3 Roles and responsibilities

The main functions of the SEA are to:

1. Establish standards and guidelines on the pollution of water, land and air, noise pollution, as well as other forms of environmental pollution.
2. Develop, in cooperation with other government authorities, economic measures to encourage environmentally sound and sustainable activities.
3. Promote training and education programmes in the field of the environment to create national awareness of environmental issues.
4. Ensure the observance of proper safeguards in the planning and execution of all development projects, including those already in existence, that are likely to interfere with the quality of the environment.
5. Initiate measures for the coordination and enforcement of environmental protection legislation.[8]

The SEA's responsibilities with regard to EIA are described in section 13.4 of this Handbook.

8 Nexant Inc., 2006. *Hydroelectric power project EIA and SIA requirements of Southern African Power Pool member countries and relevant development assistance agencies and banks.* Appendix I. Unpublished report.

13.3 Policy and legal framework for EIA

13.3.1 Environmental policies

The overriding development plan of the government is the National Development Strategy, supported by the Swaziland Environment Action Plan (SEAP).

The National Development Strategy outlines Swaziland's developmental goals for the next 25 years and is viewed as the highest-level policy document. The SEAP is the environmental equivalent of the Strategy and outlines the environmental issues relating to Swaziland's sustainable development, with recommendations for actions to promote environmentally sustainable development.[9] It lays down the principles of harmonisation of environmental legislation; the use of environmental guidelines and procedures, EIAs and market-based mechanisms; and the formulation of sectoral policies and strategies.

The National Development Strategy has spawned a variety of ministerial policies, strategies, action plans and legislation, which more clearly articulate the broad policy statements made in the Strategy and the SEAP.

Table 13.1 presents some current and emerging policies and laws pertaining to land use, development planning, resource management and EIA.

Table 13.1: Existing and emerging policies on the environment and land use

Policy, Action Plan or Strategy	Date	Status
Ministry of Tourism and Environmental Affairs		
Swaziland Environment Action Plan	1997	Approved
National Environment Policy	2000	Approved
Swaziland Biodiversity Strategy and Action Plan	2000	Approved
Environmental Education Strategy for Swaziland	2000	Approved
Tourism Policy and Strategy	2002	Approved
Swaziland National Solid Waste Management Strategy	2003	Awaiting approval
National Framework on Biosafety	2004	Awaiting approval
Alien Invasive Strategy and Action Plan	2004	Being formulated
National Capacity Self-Assessment Report on National Capacity Needs, Constraints and Priorities for the Implementation of the Climate Change, Desertification and Biodiversity Conventions	2004	Awaiting approval

9 www.ecs.co.sz

Table 13.1: Existing and emerging policies on the environment and land use *(continued)*

Policy, Action Plan or Strategy	Date	Status
Ministry of Tourism and Environmental Affairs *(continued)*		
Assessment of the Status of Access and Benefit Sharing of Genetic Resources in Swaziland	2005	Being formulated
Ministry of Agriculture and Cooperatives		
National Action Programme of the Convention to Combat Desertification	2001	Approved
National Forest Policy	2002	Approved
National Forestry Programme	2003	Approved
Rural Resettlement Policy	2003	Approved
Ministry of Natural Resources and Energy		
National Land Policy	2000	Discussion document
Rural Water Supply and Sanitation Sector Policy	2001	Being reviewed
National Energy Policy	2002	Approved
First National Communication to the United Nations Framework Convention on Climate Change	2002	Finalised
Mining Policy	2003	Awaiting approval
Integrated Water Resource Management Plan and Water Efficiency Plan	2005	Being formulated
National Water Policy	2001	Being formulated
Ministry of Health and Social Welfare		
National Environmental Health Policy	2002	Approved
Poverty Reduction Strategy and Action Plan	2005	Draft

Intersectoral collaboration within the government is not always effective. There is a high likelihood of duplication between policies, since the different government ministries develop them in parallel. There is also no evidence that mechanisms have been established to ensure that no such overlaps or contradictions occur between policies.

13.3.2 Environment Management Act

The Environment Management Act (EMA), No. 5 of 2002, replaces the Swaziland Environment Authority Act of 1992. The Act is intended to provide and promote the enhancement, protection and conservation of the environment, the sustainable management of natural resources, and matters incidental thereto. It defines the term 'environment' as:

the whole or any component of:

- Nature including air, land, water soils, minerals, energy (other than noise), and living organisms (other than humans);
- The interactions between the components of nature and between those components and humans;
- Physical, aesthetic and cultural qualities or conditions that affect the health and wellbeing of people;
- And unless the context otherwise requires, refers only to the environment within the territory of Swaziland, or over which Swaziland exercises rights or sovereignty and environmental has a corresponding meaning.

This definition of the term 'environment' recognises the interrelationships between the biophysical environment and the health and wellbeing of people, but it does not recognise the socio-economic milieu per se as being an integral part of the environment.

The main objectives of the EMA are as follows:

a) Establish a framework for environmental protection and the integrated management of natural resources on a sustainable basis.
b) Transform the SEA into a body corporate.
c) Establish the Swaziland Environment Fund.
d) Provide for matters incidental to the above objectives.

The Act is arranged in the following 11 parts:

Part I: Introductory provisions
Party II: Fundamental purpose and principles
Part III: Administration
Part IV: Integrated environmental management
Part V: Pollution control
Part VI: Waste management
Part VII: International matters
Part VIII: Public participation
Part IX: Compliance and enforcement
Part X: Reviews and appeals
Part XI: General and transitional provisions.

Part II, section 5 of the EMA sets out the underlying principles of the Act, as follows:

a) The environment is the common heritage of present and future generations.
b) Adverse effects should be prevented and minimised through long-term integrated planning and the coordination and integration of efforts that consider the entire environment as a whole entity.
c) The precautionary principle, which requires that where there is a risk of serious or irreversible adverse effects, a lack of scientific certainty should not prevent or impair the taking of precautionary measures to protect the environment.

d) The polluter pays principle, which requires that those causing adverse effects be required to pay the full social and environmental costs of avoiding, mitigating and/or remedying those adverse effects.
e) The generation of waste should be minimised wherever practicable.
f) Waste should, in order of priority, be reused, recycled, recovered and disposed of safely in a manner that avoids creating adverse effects or, if this is not practicable, is least likely to cause adverse effects.
g) Non-renewable natural resources should be used prudently, taking into account the consequences for the present and future generations.
h) Renewable resources and ecosystems should only be used in a manner that is sustainable and does not prejudice their viability and integrity.

Note that no special recognition is given to the needs of those who may be disadvantaged because of gender, disability, health, religion or culture.

The provisions relating to EIA are found in Part IV. The EIA process as described in the Act is set out in detail in section 13.4 of this Handbook.

13.3.3 Regulations

In April 1996, the Minister of Natural Resources and Energy, in consultation with the SEA, gazetted environmental regulations called the *Environmental Audit, Assessment and Review Regulations (EAARR),* which established guidelines and requirements for EIA and environmental audit reports. The EAARR require any new projects that are deemed to have an impact on the environment to obtain an Environmental Compliance Certificate (ECC) from the SEA. This requires the submission of an Initial Environmental Evaluation (IEE) report and a Comprehensive Mitigation Plan (CMP), or an EIA report that contains a description of the mitigation measures to reduce the environmental impacts of the proposed project. For existing installations, the Regulations stipulate that an environmental audit be undertaken.

The 1996 Regulations were revised in 2000 under the same name, providing more clarity and strengthening weaker areas.

Regulations gazetted under the SEA Act, namely the EAARR and Waste Regulations (2000), remain in force under the EMA. Air and water pollution regulations were drafted in 2001, but they have not yet been formally approved by Parliament, as required by the Constitution.

The Waste Regulations were developed to control the generation of waste and limit the activities that generate hazardous waste. They also provide for the declaration of Waste Control Areas in urban and rural areas.

The Ozone-Depleting Substances Regulations (2003) were developed to be in line with the Montreal Protocol. They regulate the import and export of known ozone-depleting substances.

13.3.4 Permits and licences

The SEA issues an ECC when all the necessary environmental documentation for a proposed project has been submitted to and approved by it. The assumption underlying the issuance of an ECC is that the proposed project is not likely to cause unacceptable environmental impacts and that the proponent will manage the construction and operation of the project in accordance with an approved CMP. In Swaziland, the term 'project' is defined as:

> *a plan, operation, undertaking, construction, development, change in land use or other entity, or alteration which may not be implemented without a permit, licence, consent or approval from an authorising agency.*

Several other important permits and licences are required in terms of other environmental legislation in Swaziland. These are listed in Table 13.2.

Table 13.2: Environmental permits and licences

Act, Regulation or Bylaw	Permit or licence	Requirements	Implementing agency
Water Act, No. 7 of 2003, sections 34, 35, 81	Water Permit	A Water Permit is required to use water for industrial and agricultural purposes as well as for bulk water supply, to divert or store water, and to alter a watercourse. It has to be renewed every five years.	Water Apportionment Board
Water Act, No. 7 of 2003, section 46	Borehole Drilling Permit	A permit is required for drilling any new boreholes.	Water Apportionment Board
Water Act, No. 7 of 2003, sections 48–50	Permit for Groundwater Abstraction	This permit is required for both existing and new groundwater abstraction schemes.	Water Apportionment Board
Water Act, No. 7 of 2003, section 62	Effluent Control Permit	This permit is required by anyone using water for industrial purposes and who wants to discharge effluent into a watercourse.	Water Apportionment Board
Water Act, No. 7 of 2003, section 38	Temporary Water Permit	A temporary permit may be issued for the diversion, storage or use of water, which is valid for three years only and is non-renewable.	Water Apportionment Board

Table 13.2: Environmental permits and licences *(continued)*

Act, Regulation or Bylaw	Permit or licence	Requirements	Implementing agency
Flora Protection Act, 2000, sections 6, 7, 9, 15	Permit	A permit is required to disturb, export, sell or collect for scientific purposes any species of protected flora, as listed in Schedule D of the Act.	Ministry of Agriculture and Cooperatives
Waste Regulations, 2000, section 6	Permit	A permit is required to import, export or trade in waste.	SEA
Waste Regulations, 2000, section 14	Special Waste Carrier Licence	The licence is required to transport 'special waste';[10] it is valid for three years.	SEA
Waste Regulations, 2000, section 17	Waste Management Licence	The licence is required to operate a waste disposal facility.	SEA
Waste Regulations, 2000, section 23	Special Waste Management Licence	The licence is required to keep, treat or dispose of 'special waste'.	SEA
Waste Regulations, 2000, section 16	Environmental Clearance Certificate	An EIA is required for the development of a new waste disposal site in terms of the EMA and EAARR.	SEA
Game Act, 1991, as amended, section 16(1) and section 19(1)	Permit	A permit is required to hunt, kill or capture any game as specified on the permit, and to import or export trophies or raw game products.	King's Office
National Trust Commission Act, No. 9 of 1972, section 29(2)	Permit	It is unlawful to destroy, damage, excavate, alter, remove or export any monument, relic, antique or other listed object without a permit.	Swaziland National Trust Commission
Wild Birds Protection Act, 1914, sections 4, 6–7	Permit	A permit is required to sell or export plumage of wild birds and to capture, convey, sell, purchase or barter wild birds.	King's Office

13.3.5 Penalties

Regulation 15(1) of the EAARR states that a person, including an authorising agency, who contravenes or fails to comply with any provision of the Regulations or a condition of the ECC, or who undertakes an act that is an offence under the Act commits an offence and is liable, on conviction, to a penalty of five years' imprisonment, a fine of E250 000, or both.

10 'Special waste' is defined in the Regulations as hazardous waste and clinical waste.

Regulation 15(2) places the financial onus on the proponent or operator to redress or remedy any environmental damage, or any damage caused as a result of a contravention or failure to comply with the provision of the Regulations, or any damage caused by a failure to comply with any of the conditions of the ECC for the project.

13.3.6 Fees

At the time of writing, the following fees are specified for environmental review in Swaziland:

IEE	E 1500
Environmental audit	E 1500
EIA	E3000
Resubmission fee	E 500

13.3.7 Guidelines

Guidelines were published in 1999 to assist users in interpreting and implementing the EAARR. No other guidelines have been developed to date.

13.3.8 Environmental standards

Swaziland has developed objectives for water quality and air quality, standards for effluent discharge, and a list of controlled air pollutants, as shown in Tables 13.3 to 13.5. At the time of writing, there were no standards for noise emissions and reference is, therefore, made to World Bank, World Health Organization or donor country standards.

Table 13.3: Water quality objectives

Physico-chemical parameters	Standard/objective
Dissolved oxygen	Minimum of 4 mg/l (surface water only)
pH	Minimum 6.5 and maximum 8.5
Electrical conductivity	1 800 l/cm maximum
Turbidity	5 nephelometric units maximum
Hardness	1 000 mg/l maximum (as calcium carbonate)
Chemical oxygen demand	10 mg oxygen/l maximum
Biological oxygen demand	5 mg oxygen/l maximum
Anions	
Nitrate	10 mg N/l (as nitrogen) maximum
Nitrite	0.2 – 3 mg N/l (as nitrogen) maximum
Ammonia	0.6 mg N/l maximum
Fluoride	1.0 mg/l maximum

Table 13.3: Water quality objectives (continued)

Physico-chemical parameters	Standard/objective
Cations	
Iron	1 mg/l maximum
Manganese	0.5 mg/l maximum
Mercury	0.001 mg/l maximum
Cadmium	0.003 mg/l maximum
Aluminium	0.2 mg/l maximum
Microbiological parameters	
Total coliforms	1 – 10 per 100 ml maximum
Faecal coliforms	1 – 10 per 100 ml maximum

Table 13.4: Effluent standards

Parameter or substance	Units of measurement	Limit
Colour	mg/l Pt scale	20 maximum
Odour/taste		Not detectable after being diluted threefold
pH	pH units	Minimum of 5.5 and a maximum of 9.5
Conductivity	mS/m	250 maximum
Dissolved oxygen	% saturation	Minimum of 75%
Temperature	degrees C	Maximum of 35
Chemical oxygen demand	mg O^2/l	75 maximum
Biological oxygen demand	mg O^2/l	10 maximum
Total dissolved solids	mg/l	Maximum of 500 above intake water
Suspended solids	mg/l	25 maximum
Sodium content	mg/l	Maximum of 50 above intake water
Soap, oil or grease	mg/l	100 maximum
Residual chlorine	mg/l	0.1 maximum
Free and saline ammonia	mg/l	10.0 maximum
Arsenic	mg/l	0.5 maximum
Boron	mg/l	1.0 maximum
Total chromium	mg/l	0.5 maximum
Copper	mg/l	1.0 maximum
Phenolic compounds (as phenol)	mg/l	0.1 maximum
Phosphates	mg/l	2.0 maximum
Lead	mg/l	0.1 maximum
Cyanides	mg/l	0.5 maximum
Sulphides	mg/l	1.0 maximum
Fluorides	mg/l	1.0 maximum
Zinc	mg/l	5.0 maximum
Cadmium	mg/l	0.05 maximum
Mercury	mg/l	0.02 maximum
Total faecal coliforms	per 100 ml	10 maximum

Table 13.5: Air quality objectives for controlled air pollutants

Parameter	Monitoring period	Objective
SO^2	24 hours	Maximum average of 125 lgm^3
SO^2	12 months	Maximum average of 50 lgm^3
PM10*	24 hours	Maximum average of 50 lgm^3
NO_2	12 months	Maximum average of 40 lgm^3
Lead	12 months	Maximum average of 1 lgm^3

*For purposes of this Schedule, PM10 means particulate matter capable of passing through an inlet of defined characteristics with a 50% sampling efficiency at 10↔m aerodynamic diameter. Measurement of PM10 must be carried out using instruments conforming to European Committee for Standardization (CEN) standard prEN 12341.

13.3.9 Certification of consultants

At present, no formal structures exist for the certification and/or registration of consultants who wish to undertake EIAs in Swaziland. Indeed, the legislation does not require either the names of the EIA team responsible for preparing the EIA report to be disclosed or any prior approval of the consultants by SEA. However, SEA held an exploratory workshop in August 2008 to discuss a formal certification and registration scheme for environmental assessment practitioners and government authorities.

There are no specific requirements in the EMA or EAARR for EIA consultants to be independent of the proponent.

13.4 EIA procedural framework in Swaziland for new projects

13.4.1 Screening

The First Schedule of the EAARR contains lists of projects divided into three categories, depending on their likely impact on the environment

(see Appendices 13-1, 13-2 and 13-3). It is up to the SEA to determine whether a proposed project will have any significant impacts on the environment and to determine into which category the project falls.

When assigning projects to Category 1, 2 or 3, the SEA will consider whether the proposed site is in or near an environmentally sensitive area. Generally, proposed projects in (completely or partially) or near an environmentally sensitive area may merit more detailed environmental studies and review than projects located elsewhere.

Not all environmentally sensitive areas have statutory or non-statutory forms of designation and protection. Some types of habitat, such as wetlands, may have no protection and may be used as a resource by local people. Such habitats should be considered environmentally sensitive because, inter alia, they are rare, unusual or endangered, and/or they provide a useful environmental service to local communities and, perhaps, the nation as a whole.

Examples of environmentally sensitive areas are:

- Indigenous forests;
- Wetlands;
- Semi-arid areas and zones prone to desertification;
- Areas or habitats that contain or support populations of rare or endangered species;
- Water catchments containing major sources of public water supply;
- Zones prone to flooding or other hazardous events;
- Zones with high incidences of natural or man-made erosion processes;
- Areas of historical and archaeological interest;
- Areas of cultural or religious significance (e.g. burial grounds or topographic features);
- Degraded areas that are subject to existing or proposed rehabilitation measures;
- Areas used extensively for recreation and aesthetic reasons; and
- Zones of high biological diversity.

In assigning a proposed project to Category 1, 2 or 3, designated and non-designated environmentally sensitive areas should be taken into account to the fullest extent possible.

Category 1 projects are those that are unlikely to have any significant impact on the environment and, therefore, do not require an EIA. The types of projects that may be allocated to Category 1 include, for example, small-scale commercial buildings, small-scale social infrastructure projects such as rural clinics, and remote (non-intrusive) prospecting for groundwater, minerals and hydrocarbons (see Appendix 13-1 for the full list of Category 1 projects). If the SEA is satisfied that the project falls under Category 1, an ECC will be issued and the project can proceed (see Figure 13.2).

Category 2 projects are those that could have certain significant adverse environmental impacts, but the scale and magnitude of these impacts are relatively easy to predict without having to do a detailed EIA. Such projects require an *IEE* (not a full EIA) and a *CMP.* The types of projects that may be allocated to Category 2 include: medium-scale agro-industries, rural electrification projects, renewable energy production, tourism infrastructure, and rural water supply and sanitation (see Appendix 13-2 for the full list).

Category 3 projects are those that are likely to have significant adverse impacts on the environment. In-depth *EIA studies* are required to predict the scale and magnitude of their impacts on the environment, together with appropriate *CMPs.* Typical Category 3 projects include: dams and reservoirs, large-scale irrigation and flood control schemes, mining projects, resettlement schemes, and thermal and hydropower schemes (see Appendix 13-3 for the full list).

13.4.2 Initial Environmental Evaluation

IEE report

An IEE is required for Category 2 projects. The Second Schedule of the EAARR contains an outline of the contents expected in an IEE report:

Introduction: Purpose of the IEE

Description of the project: Location, size, construction or operational activities, schedule for implementation, workforce, any alternatives.

Description of the environment: Brief description of physical, ecological and human aspects of the site and its surroundings.

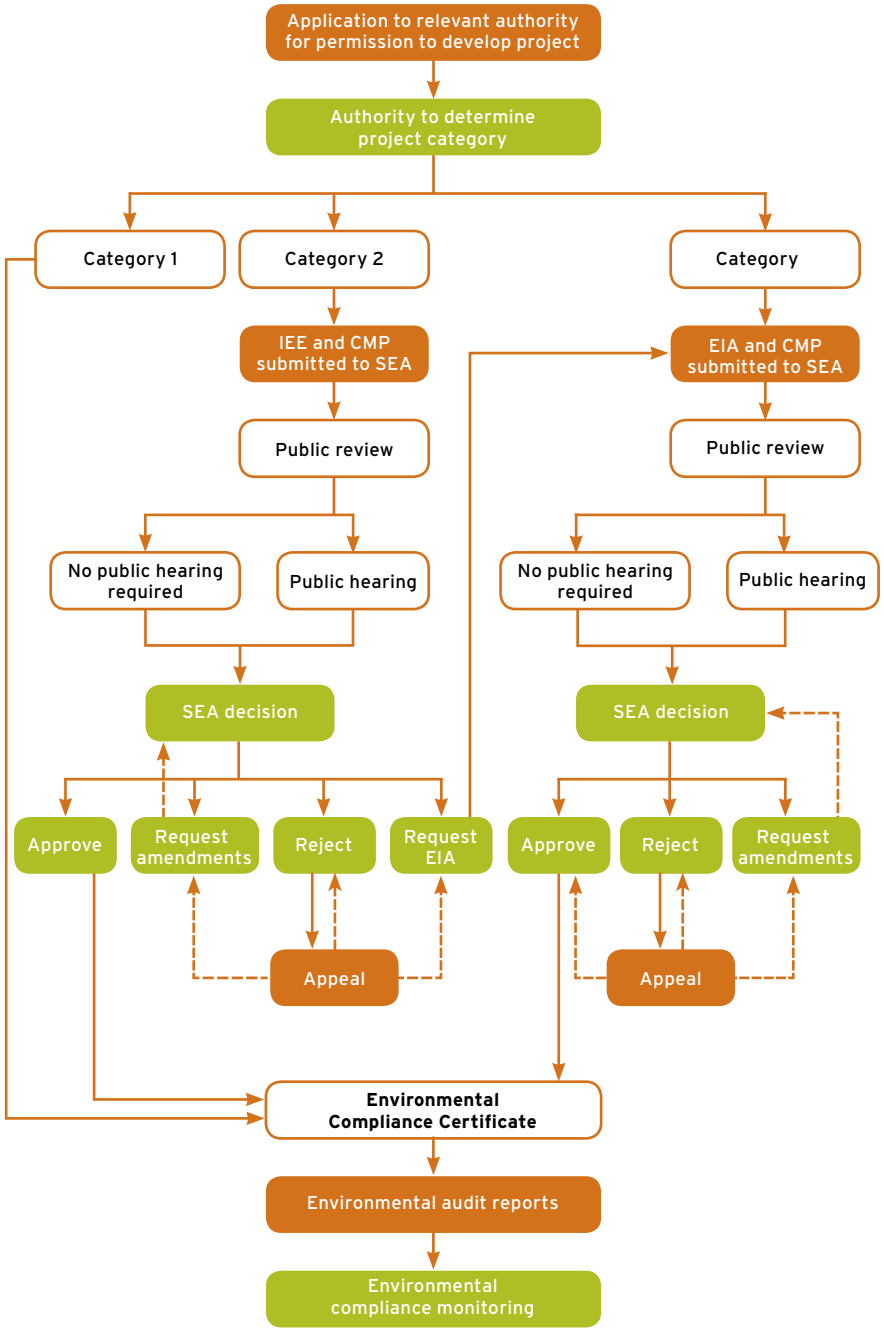
Impact description and evaluation: Brief account of the significant impacts likely to occur if no mitigation occurs – if an EIA is needed because of the nature and extent of expected impacts, then a recommendation to this effect should be made.

Impact management: Description of mitigation measures and monitoring programmes.

Schedule of implementation: Technical and institutional requirements for successful implementation.

The IEE report should be short (no more than 20 pages) and written in clear, simple language. The accompanying CMP must conform to the requirements set out in the Second Schedule of the Regulations and described below.

Figure 13.2: EIA process flow diagram



Comprehensive Mitigation Plan

The IEE report must be accompanied by a CMP, which should focus on the significant impacts identified in the IEE report. The contents of the CMP are set out in the Second Schedule of the Regulations and are listed below.

The CMP must contain details relating to:

- Impacts to be prevented or reduced in severity;
- Benefits to be enhanced;
- Mitigation measures to achieve the above;
- Costs and institutional and training requirements;
- Monitoring programmes to track project-related impacts and implementation of mitigation measures; and
- Community liaison procedures needed.

It must also contain:

- Schedules for implementation and targets;
- Reporting procedures;
- A work programmes budget; and
- Staffing and training requirements.

Submission of the IEE and CMP reports

The proponent must submit the IEE report and the CMP to the authorising agency (if not SEA) or the MTEA, which must forward the documents to the SEA within *ten days* of receipt. The SEA then has *15 days* to decide whether the IEE report and the CMP conform to the prescribed reporting requirements or guidelines specified in the Second Schedule of the EAARR. If not, the project proponent will be requested to submit an amended set of documents for consideration by the SEA.

Public review of IEE and CMP reports

Immediately after the SEA has received the IEE and CMP, it is required (in terms of Regulation 11(7)) to:

a) Distribute copies of the documents to affected ministries, local authorities, parastatals, non-governmental organisations and any other stakeholders.

b) Display such copies conspicuously in public places, especially near the site of the proposed project.

c) Place a notification:
   i. in the Government Gazette;
   ii. on the Swaziland Broadcasting Service; and
   iii. in a newspaper circulating in Swaziland twice a week and for two consecutive weeks,

specifying the place and the times where copies may be available for inspection and the procedure for the submission of comments and objections (see Figure 13.2).

The public is allowed *15 days* to submit comments on Category 2 projects, but the SEA can extend this period for a period not exceeding ten days if the project is considered sensitive.

Public hearing

Following the public review period, the SEA has *five days* to decide whether a public hearing is necessary. This decision is usually based on one or both of the following:

a) If after examining the documents and the reports, the SEA is of the opinion that the project is of such a sensitive nature that the public should have the opportunity to make submissions or comments at a public hearing; or
b) If there is great public concern about the project and the number of written and substantiated objections exceeds ten.

Notice of the public hearing is given by the SEA, which has to ensure that:

a) A notice is published at least once a week for two consecutive weeks in a newspaper circulating in Swaziland, stating the date and place where the public hearing is to be held, at least *15 days* before the public hearing is held. The expenses in respect of the publication of the notice are to be borne by the proponent.
b) All reports, documents, written comments and objections during and after the period of public review are displayed and made available until the public hearing has been finalised.
c) Any party who has an interest in the outcome of the public hearing, including the project proponent, the authorising agency, the commenting agency and any other person, must be called upon to attend the public hearing or solicit, in writing, comments from other government agencies or offices with expertise or regulatory power over the proposed project.

The public hearing will be presided over by persons nominated by the SEA in terms of Regulation 12. The chairperson of the public hearing has to produce a report, approved by all the officers assigned to the hearing, within *15 days* of the public hearing. This report will also be made available for public inspection.

Decision on Category 2 projects

Once the SEA has reviewed the IEE report and the CMP, all public submissions, as well as the public hearing report (if necessary), it will do one of the following:

a) Approve the project and issue an ECC.
b) Request the proponent to prepare and submit a full EIA and CMP (see section 13.4.3).

c) Request the proponent to make appropriate amendments to the IEE and/or the CMP as directed (see Figure 13.2).

13.4.3 EIA study

EIA report

An in-depth EIA is required for Category 3 projects or for those projects located in environmentally sensitive areas (see section 13.4.1). The contents of an EIA report are specified in the Second Schedule of the EAARR, and are as follows:

Executive summary: A brief account (no more than ten pages) of the findings of the EIA, with the emphasis on the main issues for consideration by decision-makers in the SEA, the authorising agencies and members of the public.

Introduction: Purpose of the EIA. The boundary of the study area and time horizon for which the impacts will be predicted (speculated future date or time).

Description of the environment: An overall evaluation of the types and quality of the environment (biophysical and social components and processes) within the study area, with specific information presented only when relevant to the prediction and evaluation of impacts. A description of any expected changes to the baseline environmental situation before implementation of the project subject to an EIA (the 'no project' alternative).

Prediction and evaluation of impacts: For all alternatives:

- Distinguish between significant adverse and beneficial impacts.
- Identify irreversible impacts.
- Allocate significance against international and/or national regulations, standards and quality objectives governing:
  - Health and safety
  - Protection of environmentally sensitive areas;
  - Land use; and
  - Ambient pollution levels.
- Identify significant data deficiencies and assumptions made.
- Determine the spatial and temporal distribution of impacts.

Analysis of alternatives and selection of preferred option: Selection of preferred alternative based on the comparison of the environmental impacts of each option.

Impact management plan (for preferred alternative): Action to enhance benefits and prevent or reduce adverse impacts.

Schedule for implementation: Technical and institutional requirements for successful implementation.

Consultations: Results of any consultation held with government agencies, non-governmental organisations and the public during EIA work.

Comprehensive Mitigation Plan

The EIA report must be accompanied by a CMP, which should focus on the significant impacts identified in EIA report. The contents of the CMP are set out in the Second Schedule of the Regulations and are the same as those specified for the IEE, listed in section 13.4.2.

Submission and review of EIA and CMP reports

On completion of the EIA and CMP reports, the proponent must submit them to the authorising agency (if not SEA) or the MTEA, which shall forward them to the SEA within *ten days* of receipt. The SEA then has *20 days* to decide whether the EIA report and the CMP conform to the prescribed reporting requirements or guidelines specified in the Second Schedule of the EAARR, and whether these documents contain the necessary breadth, depth and types of analysis to allow for informed decision-making. If the documents do not conform to the specified requirements, the project proponent is requested to resubmit an amended set of documents for consideration by the SEA.

Public review of EIA and CMP reports

Immediately after the SEA has received the EIA and the CMP, it is required (in terms of Regulation 11(7)) to:

a) Distribute copies of the documents to affected ministries, local authorities, parastatals, non-governmental organisations and any other stakeholders.
b) Display such copies conspicuously in public places, especially near the site of the proposed project.
c) Place a notification:
   i. in the Government Gazette;
   ii. on the Swaziland Broadcasting Service; and
   iii. in a newspaper circulating in Swaziland twice a week and for two consecutive weeks,

specifying the place and the times where copies may be available for inspection and the procedure for the submission of comments and objections.

The public is allowed *20 days* to submit comments on Category 3 projects, but the SEA can extend this for a period not exceeding ten days if the project is considered sensitive.

Where the SEA believes a project is likely to have significant impacts on the environment of a neighbouring country or that country so requests, it shall forward the relevant reports and documents to that country at the same time that the documents are made available for public review in Swaziland.

Public hearing

Following the public review period, the SEA has *five days* to decide whether a public hearing is necessary. This decision is usually based on one or both of the following:

a) If after examining the documents and the reports, the SEA is of the opinion that the project is of such a sensitive nature that the public should have the opportunity to make submissions or comments at a public hearing; or
b) If there is great public concern about the project and the number of written and substantiated objections exceeds ten.

The procedures for the public hearing for the SEA are the same as those required for an IEE and are set out in section 13.4.2 above.

Decision on Category 3 projects

Regulation 7 states that the SEA shall, within *20 days* of receipt of the public hearing report or inquiry or within *20 days* after a public hearing or inquiry is judged not to be warranted, make a decision:

a) Allowing the proponent to proceed with the project and issue the proponent with an ECC; or
b) Disallowing the proponent from proceeding with the project as planned, if it would bring about unacceptable environmental impacts or the mitigation measures are inadequate. In this instance, the proponent is allowed to submit revised documents for the Authority's consideration.

The SEA's decision must be communicated as follows:

a) In writing to the authorising agency or the MTEA, giving reasons, conditions and comments on its decision;
b) By publishing the decision in a medium to be decided by the Authority;
c) By publishing a detailed statement of the decision for public inspection, notifying all the main stakeholders and interested and affected parties by display in public places and through the media; and
d) By sending a copy of the decision to any persons who have submitted comments in writing or lodged an objection to the Authority in terms of the Regulations.

13.4.4 Appeals

A person who is aggrieved by the decision of the Authority or the findings of the public hearing may, after payment of the prescribed fee, appeal against the decision or findings to the Minister within *15 days* from the date of the decision of the Authority. The Minister's decision is final.

13.4.5 Compliance monitoring

Proponents of approved projects are required to hire environmental compliance monitors to prepare Project Compliance Reports for review by the SEA.

The Authority normally specifies the frequency of reporting in the ECC, which depends on its assessment of the nature of the project. Nonetheless, Project Compliance Reports are usually completed once a month.[11]

The Authority occasionally inspects approved projects to ensure that their implementation is consistent with the recommendations of the CMPs. It has discovered several cases of non-compliance in the construction sector, for example. This underlines the need for the Authority to undertake more and regular on-site inspections rather than relying on the objectivity of the compliance reports, as proponents are not always committed to implementing the CMPs because of the cost involved. Mainly because of staff shortages, the SEA has generally been reactive (rather than proactive) in auditing and taking appropriate steps against companies that do not comply with the required environmental standards.[12]

The Project Compliance Report should typically contain the following, as prescribed in the Second Schedule of the Regulations:

Introduction: Purpose of the report.

Description of the project: Location, size, phase of implementation (construction or operation), workforce.

Performance review: Checking of implementation of CMP and actual impacts of projects (if data allows).

Recommendation: To improve performance and preparation of next Project Compliance Report.

13.4.6 Environmental audits for existing projects

Preparation and submission of Environmental Audit Reports

In the EMA, a distinction is made between proposed projects, for which an environmental assessment is required, and existing projects, which require an environmental audit report. To this end, Regulation 5 of the EAARR requires the SEA to:

a) Annually identify and maintain a list of projects that cause concern to the Authority or the public because of their impact on the environment, and publish the list of such projects in its annual report;
b) Require an operator of an existing listed project to submit an Environmental Audit Report (see below) and a CMP to the SEA within six months after notification, and to do so at his/her own cost; and
c) After receipt of the Environmental Audit Report and the CMP, determine within *15 days* whether these documents conform to or are in accordance with the prescribed reporting requirements or guidelines under the Second Schedule of the Regulations. Where the reports do not conform, the operator will be required to make good any deficiencies and resubmit the reports at his/her own cost.

On receipt of the Environmental Audit Report and CMP, the SEA will distribute copies to every ministry concerned or responsible for the control of the project for its comments within four weeks.

Note that the Environmental Audit Report and the CMP are deemed public documents, and the SEA may make copies available to whoever desires to have them without charge or at a minimal charge as determined by the Authority. However, Regulation 5(7) allows certain information in the documents to be kept confidential if the operator can prove that disclosure will be detrimental to his/her commercial operations or the national interest of the country. In instances where the entire document is considered confidential, the operator must make a summary environmental audit report available for public review and comment.

The procedures for public review, inspection and the submission of comments and objections on the Environmental Audit Report and the CMP are the same as those described in sections 13.4.2 to 13.4.4 above.

Once the SEA accepts the CMP and advises the operator of such in writing, the operator has *15 days* to implement the requirements of the CMP.

Contents of an Environmental Audit Report

The Environmental Audit Report is required to contain at least the following:

Introduction: Purpose of the report.

Description of the project: Location, size, workforce, inputs and outputs, operations and manufacturing processes, transport.

Description of the environment: Brief description of the physical, ecological and human aspects of the site and its surroundings.

Impact description and evaluation: Inventory with amounts of all effluent discharges, after pre-treatment, to the air, water and land (including noise, vibration and odour). Inventory of all solid wastes produced and their handling, storage, transport and eventual deposition. Inventory of chemicals used in operational or manufacturing processes and which reach the air, water or land through non-point sources. Concentrations of chemical, radiological and

10 Nexant Inc., 2006.
11 Nexant Inc., 2006.

energy pollutants in the air, water and land near the installation (based on inventory). Identification and evaluation of the impacts of these concentrations on the environment and health (when data allows).

13.4.7 Strategic environmental assessment

Of particular note in the EMA is that provision has been made in section 31 for strategic environmental assessment to be undertaken for any parliamentary Bills, Regulations, policies, plans and programmes that may have an adverse impact on the protection, conservation or enhancement of the environment or on the sustainable management of natural resources. Section 31(3) stipulates the contents of a strategic environmental assessment report:

a) A full description of the Bill, Regulation, public policy, programme or plan and the objectives it intends to achieve;
b) An identification, description and assessment of the positive and adverse effects that implementation of the proposed policy, programme, plan or legislation is likely to have on the environment and on the sustainable management of natural resources;
c) An identification, description and assessment of the likely effects of alternative means to achieve the objectives of the Bill, Regulation, policy, programme or plan;
d) An identification, description and assessment of a range of practicable measures that could be taken to avoid, mitigate or remedy any adverse effect that may occur as a result of the implementation of the Bill, Regulation, policy, programme or plan; and
e) Any other information prescribed by the Minister by regulation.

If proponents of a Bill, Regulation, policy, programme or plan are in any doubt as to whether a strategic environmental assessment is required, they are directed to consult SEA to determine the need for such a study.

Once the strategic environmental assessment has been completed, the proponent has to submit all relevant documentation, showing where changes have been made in response to the assessment and other comments.

13.4.8 Transboundary impacts

The only reference to the consideration of transboundary impacts is that when the SEA believes a project is likely to have significant impacts on the environment of a neighbouring country or if that country so requests, it must forward the relevant reports and documents to that country at the same time that the documents are made available for public review in Swaziland.

13.5 Other relevant environmental legislation in Swaziland

Environmental issues cut across a variety of sectors, and numerous pieces of legislation in Swaziland have a bearing on the environment and should be considered in EIA decision-making. The sectors, titles of the legislative instruments, the responsible agency and the purpose of the legislation are summarised in Table 13.6.

Table 13.6: Other potentially applicable sectoral requirements[13]

Information required	Responsible agency	Title and date of document	Purpose
Water resources	Water Resources Branch/National Water Authority	Water Act, No. 7 of 2003	This Act is intended to harmonise the management of water resources in the country. Its provisions include the establishment of a National Water Authority and a Water Resources Master Plan. This Plan will contain an inventory of the total water resources of Swaziland, and a comprehensive programme of action by which the maximum value can be obtained from this resource for the benefit of the people of Swaziland.
Air	SEA	Air Pollution Control Regulations, 2010	The Regulations for the control and management of air pollution set out air quality objectives and a list of controlled air pollutants in Schedules 1 and 2 respectively. They carry a maximum penalty of ZAR250 000 for non-compliance.
Water	SEA (in association with the Water Resources Branch)	Water Pollution Control Regulations, 2010 (replace the Purification of Industry Water and Effluent Regulations, No. 25 of 1967)	These Regulations for the control and management of water quality set out water quality objectives and effluent standards in Schedules 1 and 2 respectively. They carry a maximum penalty of ZAR250 000 for non-compliance.
Noise		No legal instruments to control noise at present	
Waste	SEA	Waste Regulations, 2000	These are Regulations for the management of solid waste, liquid waste and hazardous waste disposed of on land or in furnaces. See Table 13.2 for a list of permits required in terms of these Regulations.

13 Nexant Inc., 2006.

Table 13.6: Other potentially applicable sectoral requirements *(continued)*

Information required	Responsible agency	Title and date of document	Purpose
Energy	Swaziland Electricity Board	(i) Electricity Act, No. 10 of 1963	(i) The Act establishes the Swaziland Electricity Board with the function of supplying electricity to those requiring it. The Board is empowered to acquire land, erect infrastructure, enter any land in pursuit of or the provision of services, etc.
	Ministry of Natural Resources and Energy (MNRE)	(ii) National Energy Policy, 2003	(ii) The Policy ensures that the development goals of the country are met through the sustainable supply and use of energy for the benefit of all the citizens of the country.
Health	Ministry of Health and Social Welfare	(i) Public Health Act, 1969	(i) The Act makes provision for public health, particularly communicable diseases, nuisances and other incidental matters.
		(ii) National Environmental Health Policy, 2002	(ii) The Policy aims to improve the health status of the Swazi people by providing preventive, promotional, rehabilitative and curative health services, which are relevant, socially acceptable, affordable and accessible to all.
Planning and zoning	Ministry of Housing and Urban Development (MHUD)	(i) Town Planning Act, 1961	(i) The Act makes provision for the preparation and carrying out of town planning schemes.
		(ii) Urban Government Act, 1969	(ii) The Act makes provision for the establishment and regulation of urban authorities.
		(iii) Draft Peri-Urban Growth Policy, 1997	(iii) The key to managing the urbanisation process has been identified as institutionalising a participatory, evolutionary approach towards urban status and individuation of tenure. It is recommended that the process be managed through a two-level hierarchy – a Peri-Urban Authority at government level and Community Associations at community level.
Planning and zoning *(continued)*			The former is to provide integrated management of the process, including the master plans for settlements, arrangement of financing options, and technical support for the formation and continuing development of the Community Development Associations. The Associations are to manage the process of growth of the settlements and provide incremental means of: 1. Infrastructure delivery; 2. Evolution of tenure from communal to individual; and 3. Evolution of management and representation from traditional to that required under the Urban Government Act. This process will require the clear definition of what property and management rights are held by which party at which stage, and a means for their transfer over time by mutual agreement.
	Ministry of Agriculture and Cooperatives (MOAC)	(iv) Control of Tree Planting Act, 1972	(iv) The Act provides for the control of the planting of certain trees grown for commercial purposes in specified areas, and for matters incidental thereto.
Forestry	MOAC	(i) Private Forests Act, No. 3 of 1951	(i) The Act provides for the regulation of private forests in Swaziland.
		(ii) Flora Protection Act, 2000	(ii) The Act repealed the Act of 1952 to provide for more effective protection of the indigenous flora of Swaziland.
		(iii) Forest Preservation Act, No. 14 of 1910	(iii) The Act regulates trees and forestry development on government and Swazi nation land.
		(iv) Forest Policy, 2002	(iv) The Act aims to achieve efficient, profitable and sustainable management and utilisation of forest resources for the benefit of the entire society.
		(v) Control of Tree Planting Act, No. 7 of 1972	

Table 13.6: Other potentially applicable sectoral requirements *(continued)*

Information required	Responsible agency	Title and date of document	Purpose
Mining and mineral resources	MNRE	(i) Mining Act, No. 5 of 1958 (ii) Explosives Act, No. 4 of 1961	(i) The Act provides for the prospecting, mining and provision of mineral concessions.
Conservation	MTEA	(i) Swaziland National Trust Commission Act, 1972, and Regulations (ii) Protected Places and Areas Act, No. 13 of 1966	The Commission seeks to, inter alia: • Preserve the natural and cultural heritage. • Continue to develop nature conservation in the country. • Create awareness and educate the public on conservation of the natural and cultural heritage. • Promote tourism relating to the natural and cultural heritage of the country. • Control the implementation of all activities relating to biodiversity conservation, including responsibilities as recognised by the SEA and other government bodies. • Control the implementation of other biodiversity-related legislation.
Wildlife and natural resources	MNRE King's Office	(i) Flora Protection Act, 2000 (ii) Wild Birds Protection Act, No. 45 of 1914 (iii) Natural Resources Act, No. 71 of 1951 (iv) Game Act, 1953, as amended by the Game (Amendment) Act, 1991 (v) Plant Control Act, No. 8 of 1981 (vi) Grass Fires Act, No. 44 of 1955	(i) The Act identifies and lists protected species and permits required in respect of protected species. (ii) The Act prohibits, with certain exceptions, the sale and exportation of the plumage and skins of wild birds, and provides for the protection of birds. (iii) The Act protects natural resources (with limited powers). (iv) The Act amends the laws dealing with the preservation of game, and provides for the preservation of other types of wildlife in Swaziland.
Agricultural and land	MNRE, MHUD and MOAC	Draft Land Policy, 1999	This includes: • Land tenure issues and policies; • Land use and land management issues and policies; • Land market issues and policies; and • Land administration issues and policies.
Fisheries	MOAC	Protection of Freshwater Fish Act and Regulations, 1937	
Roads	Ministry of Works and Transport	Roads and Outspans Act, 1931	The Act makes provision for the establishment of public roads and outspans, and provides for the establishment of road boards and other matters incidental thereto.
Human resettlement, compensation and rehabilitation	MHUD MOAC	(i) Building and Housing Act, 1968 (ii) Crown Lands Act, 1949 (iii) Crown Lands (Temporary Occupation) Act, 1968 (iv) Human Settlements Authority Act, 1992 (v) National Housing Policy, 2001 (vi) Human Resettlement Policy, 2003 (vii) Rural Resettlement Policy	(i) The Act provides for the control of building and the safety of buildings. (ii) The Act proclaims certain areas of land in Swaziland as crown lands. (iii) The Act makes provision for the granting of permits for temporary occupation of certain crown lands and prevents the unauthorised occupation of or encroachment on crown land. (iv) The Act establishes the Human Settlements Authority. (v) The Policy stipulates that 'all Swazi households should have access to affordable shelter and services'. (vi) The Policy aims to establish a sensible, effective strategic framework for sustainable land management and resettlement, correcting or preventing the often haphazard allocation of land to homesteads, cropping and grazing, so that arable land is not wasted, erosion is minimised, and service provision is facilitated.

Table 13.6: Other potentially applicable sectoral requirements *(continued)*

Information required	Responsible agency	Title and date of document	Purpose
Archaeological, historical and cultural	MTEA and SEA	Swaziland National Trust Commission Act, 1972, and Regulations	The Commission seeks to, inter alia: • Preserve the natural and cultural heritage. • Continue to develop nature conservation in the country. • Create awareness and educate the public on conservation of the natural and cultural heritage. • Promote tourism relating to the natural and cultural heritage of the country. • Control the implementation of all activities relating to biodiversity conservation, including responsibilities as recognised by the SEA and other government bodies. • Control the implementation of other biodiversity-related legislation.

Appendix 13-1

List of Category 1 projects

Projects under this category are unlikely to cause any significant environmental impact. Types of projects that may be allocated to Category 1 include, but are not limited to, the following:

- Residential development not exceeding three houses;
- Renovations to existing structures not involving asbestos or other hazardous substances;
- Small-scale commercial buildings or structures;
- Research activities;
- Prospecting for groundwater, minerals and hydrocarbons using vibriosis and similar techniques;
- Small-scale social infrastructure provision (e.g. rural health, education and family planning);
- Technical assistance and institution-strengthening activities; and
- Small-scale tourist projects.

Appendix 13-2

List of Category 2 projects

Projects under this category are likely to cause environmental impacts, some of which may be significant unless mitigation actions are taken. Such projects cause impacts that are relatively well known and easy to predict. Also, the mitigation actions to prevent or reduce the impacts are well known. Types of projects that may be allocated to Category 2 include, but are not limited to, the following:

- Agro-industries (medium-scale);
- Electrical transmission lines and rural electrification (medium-scale);
- Irrigation and drainage (medium-scale);
- Renewable energy production;
- Residential development exceeding three houses, but fewer than ten houses;
- Hotels, camp sites and lodges;
- Rural water supply and sanitation;
- Watershed management and rehabilitation;
- Urban area rehabilitation (medium-scale);
- Small-scale infrastructure (roads, sewage systems, water pipelines and treatment works);
- Hospitals (medium-scale);
- Non-food industries (medium-scale) without discharge of toxic substances or storage and use of hazardous substances; and
- Projects located near environmentally sensitive areas.

Appendix 13-3

List of Category 3 projects

Projects under this category are likely to have significant adverse impacts, whose scale, extent and significance cannot be determined without in-depth study. Appropriate mitigation measures can only be identified after such study. Types of projects that may be allocated to Category 3 include, but are not limited to, the following:

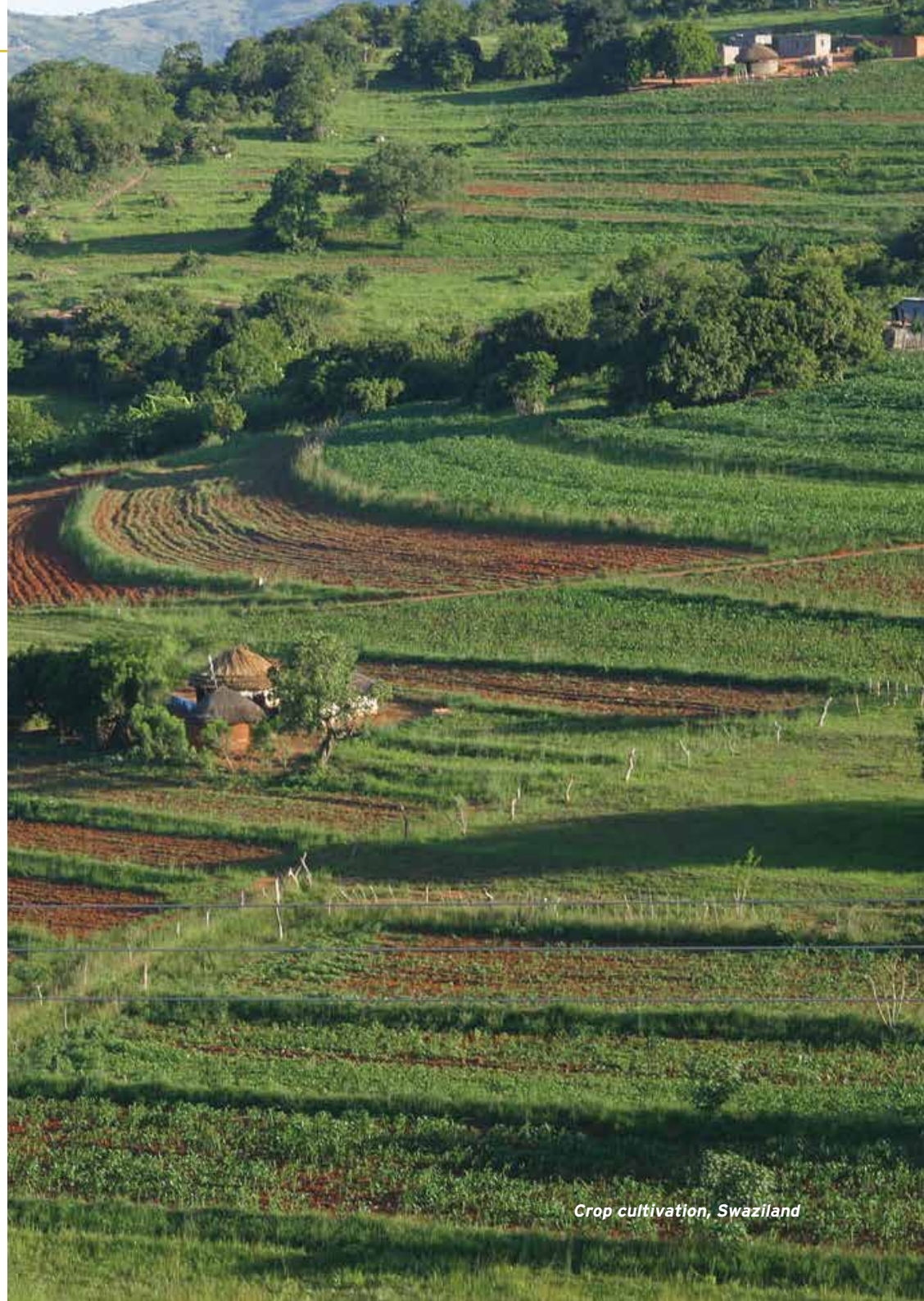
- Residential development exceeding ten houses;
- Dams and reservoirs;
- Afforestation schemes and wood processing facilities (large-scale);
- Irrigation, drainage and flood control (large-scale);
- Mineral development (including hydrocarbons);
- Reclamation and opening of new areas for agriculture;
- Resettlement schemes;
- River basin development;
- Thermal and hydropower;
- Manufacture, transport and use of pesticides or other hazardous substances;
- Agriculture (especially involving large-scale monoculture);
- Roads
- Projects located in environmentally sensitive areas;
- Mining and soil excavation (large-scale).

Acronyms

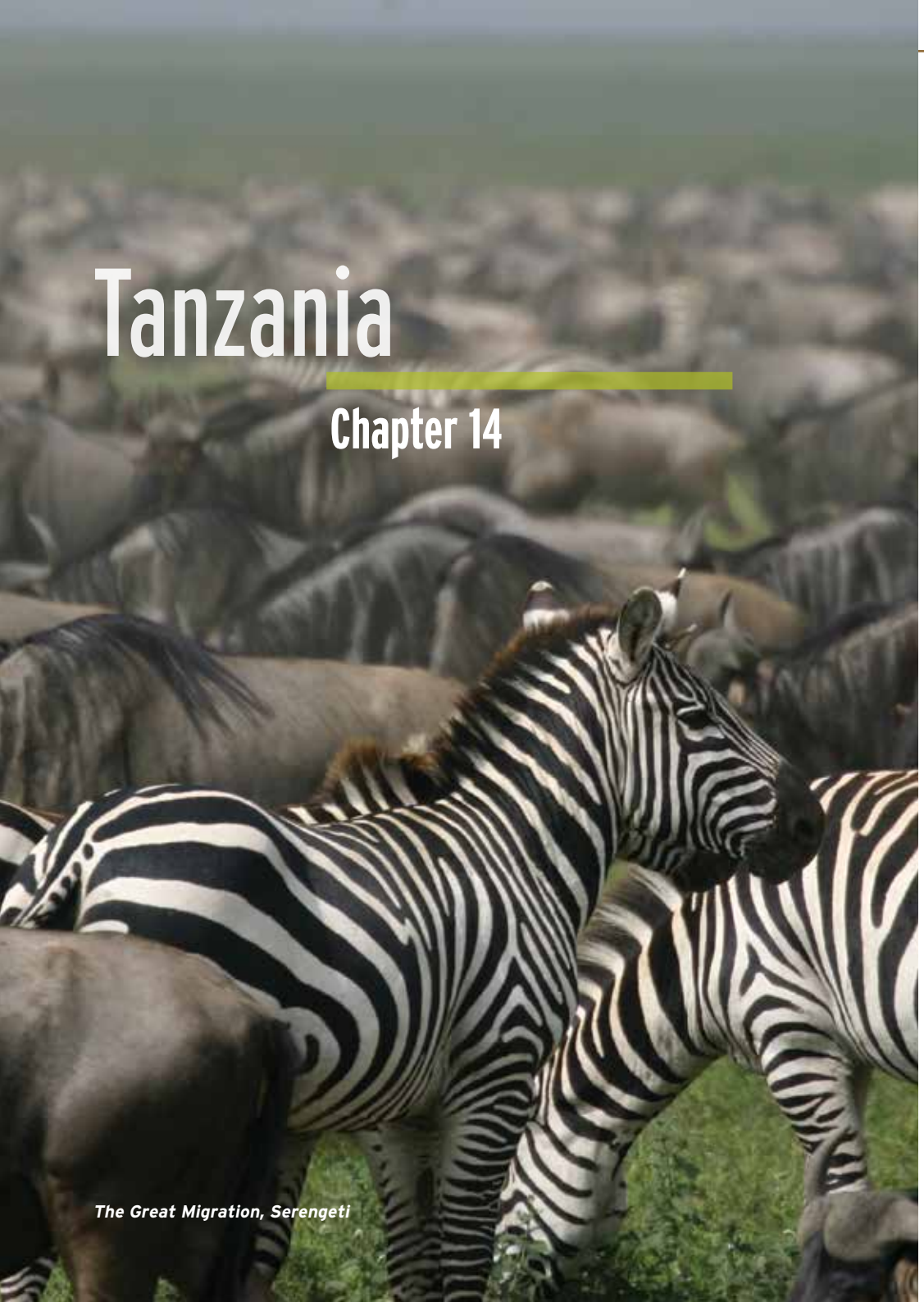
CMP	Comprehensive Mitigation Plan
EAARR	Environmental Assessment, Audit and Review Regulations
ECC	Environmental Compliance Certificate
EIA	environmental impact assessment
EMA	Environment Management Act
IEE	Initial Environmental Evaluation
MHUD	Ministry of Housing and Urban Development
MNRE	Ministry of Natural Resources and Energy
MOAC	Ministry of Agriculture and Cooperatives
MTEA	Ministry of Tourism and Environmental Affairs
SEA	Swaziland Environment Authority
SEAP	Swaziland Environment Action Plan

Useful contacts

Department	Ministry	Telephone	Fax	Website
Swaziland Environment Authority	Ministry of Tourism and Environmental Affairs	+268 2404 9693	+268 404 9683	www.sea.org.sz



Crop cultivation, Swaziland



Tanzania

Chapter 14

The Great Migration, Serengeti

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Tanzania

14.1 Constitutional requirements for environmental protection in Tanzania

Tanzania has, at the highest level, committed itself to the conservation of the country's natural environment. The Constitution and various Mission Statements make a clear link between a healthy environment and the wellbeing of the citizens of the country. Under Article 27 of the Constitution, the public is called upon to ensure that the natural resources of the country are managed properly:

1) Every person is obliged to safeguard and protect the natural resources of the United Republic, State property and all property jointly owned by the people...
2) All persons shall by law be required to safeguard State and communal property, to combat all forms of misappropriation and wastage and to run the economy of the nation assiduously, with the attitude of people who are masters of the fate of their nation.[1]

Environmental management in Tanzania falls under the Vice-President's Office. The mission of the Vice-President's Office in relation to the environment is:

> *... to formulate policies and strategies on poverty eradication, protection of environment and non-governmental organisations as well as co-ordinate all issues pertaining to the union of the Government of the United Republic of Tanzania and the Government of Zanzibar.*

The above strategic direction provides the necessary framework for the development of national policies, laws, programmes and plans to enable the efficient management of the environment and ensure the necessary environmental safeguards.

14.2 Institutional and administrative structure for environmental impact assessment in Tanzania

14.2.1 Division of Environment

The Division of Environment has the following overall functions:

- Formulation of policy on the environment;
- Coordination and monitoring of environmental issues;
- Environmental planning; and
- Policy-oriented environmental research.[2]

1 Republic of Tanzania, 1998. *The Constitution of the United Republic of Tanzania.* Dar es Salaam: Government of Tanzania.
2 www.tanzania.go.tz/environmental.html

The Division has been responsible for the formulation of a number of national plans and strategies:

- National Environmental Action Plan (NEAP), 1994
- National Plan for Agenda 21, 1993
- National Action Programme to Combat Desertification, 1999
- National Biodiversity Strategy and Action Plan, 2000
- Coastal Biodiversity Conservation Strategy, 1995
- Country Programme to Phase Out Ozone-Depleting Substances, 1996
- National Action Plan on Climate Change, 1997.

One of the agencies under the Division of Environment is the National Environment Management Council (NEMC).

14.2.2 National Environment Management Council

The NEMC was initially established in 1983 in terms of the National Environment Management Council Act, No. 19 of 1983. Its composition, powers and functions were rearticulated in Part III(d) of the Environmental Management Act (EMA), No. 20 of 2004. The NEMC is a corporate body with all the legal powers of such an entity. It falls under the Vice-President's Office and its role is to provide the Office with advice on all matters pertaining to environmental conservation and management.

The objectives of the NEMC are to undertake the enforcement, compliance, review and monitoring of environmental impact assessment (EIA), including the facilitation of the public participation process in environmental decision-making.

The mandate of the NEMC is as follows:

- Enforce and ensure compliance with the national environmental quality standards.
- Review Environmental Impact Statements (EISs) and conduct environmental monitoring and auditing of projects and facilities.
- Undertake and coordinate research, investigation and surveys related to the environment, and collect and disseminate information.
- Carry out research and surveys for the proper management and conservation of the environment.
- Render advice and technical support to entities engaged in natural resources and environmental management.
- Initiate and evolve procedures and safeguards for the prevention of accidents that may cause environmental degradation.
- Enhance environmental education and public awareness, and establish and operate national environmental information systems for sound environmental management.
- Publish and disseminate manuals, codes and guidelines relating to environmental management and the prevention or abatement of environmental degradation.
- Issue restoration and easement orders and prohibition notices.
- Undertake any other functions, such as integrated coastal zone management.[3]

The NEMC has more than 50 qualified technical staff in various environmental disciplines. It is headed by a Director-General, who is assisted by directors and technical and support staff, under the guidance of the Council (see Figure 14.1).

14.2.3 Directorate of Environmental Impact Assessment

The Directorate of Environmental Impact Assessment (DEIA) reviews the environmental soundness of projects, plans and programmes, and aids informed decision-making towards achieving sustainable socio-economic development and ecological sustainability.

3 www.nemctan.org

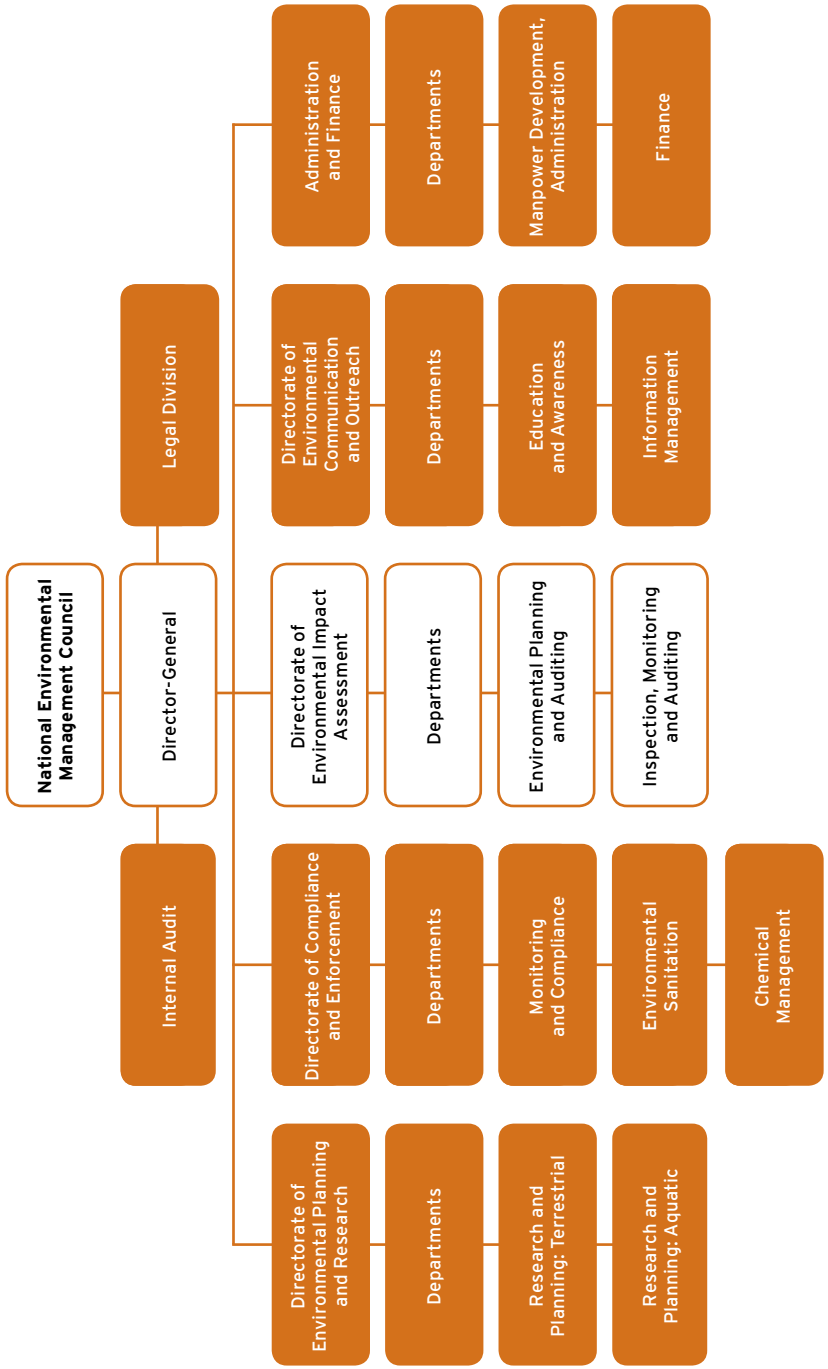


Figure 14.1: Organisational chart of the National Environmental Management Council

The Directorate was established to ensure that environmental issues relating to developmental projects and activities, plans, programmes and policies in all sectors of the economy are integrated and considered early in the planning and design phases, with a view to minimising negative impacts and achieving sustainable development.

The Directorate is responsible for:

- Reviewing and approving EIS reports;
- Building EIA capacity at district level by conducting EIA training;
- Creating and raising public awareness on the role of EIA;
- Conducting site inspection and verification visits;
- Managing the EIA database and network development; and
- Conducting environmental monitoring and auditing.[4]

14.2.4 Intersectoral cooperation

Intersectoral cooperation is achieved through the establishment of an environmental section in each line ministry, headed by a Sector Environmental Coordinator.[5] Each environmental section is responsible for:

- Ensuring the line ministry's compliance with the EMA;
- Ensuring all environmental matters contained in other laws falling under the jurisdiction of the sector ministry are implemented and reported to the NEMC; and
- Liaising with the NEMC on all environmental matters in order to achieve cooperation and shared responsibility for environmental governance.

Of specific relevance to the administration of EIA, the sector ministries and local authorities must do the following:

- Provide relevant policies, regulations, legislation and other relevant information to a proponent.
- Collaborate in the evaluation of registration forms and Project Briefs.
- Participate in the identification of important issues in the scoping process.
- Collaborate in the review of the Terms of Reference, consultations during the EIA study, and internal review for comments on the EIS.
- Participate in the review mechanism put in place by the reviewing authority, as necessary.
- Undertake monitoring of project implementation.[6]

In terms of section 87(2) of the EMA, the NEMC may set up a cross-sectoral Technical Advisory Committee to participate in reviews of the EIS.

4 www.nemctan.org
5 Section 33(1) of the EMA.
6 EIA Guidelines

14.2.5 Government of Zanzibar

Environmental governance in Tanzania is complicated by the existence of two different types of legislation for the Zanzibar Islands and the Tanzanian Mainland. Although Tanzania is a federal state comprising Tanzania Mainland and Zanzibar, the latter maintains administrative independence in most of its government matters. The National Assembly of the United Republic of Tanzania, which includes members from Zanzibar, legislates on matters such as foreign affairs, finance, defence, immigration and citizenship. All other matters concerning Zanzibar are within the exclusive jurisdiction of the Zanzibar Government and its legislative body, the House of Representatives. The relevant government institutions responsible for environmental management in Zanzibar are shown in Table 14.1 and the legal and policy framework for EIA is discussed in sections 14.3.11 and 14.3.12 respectively.

Table 14.1: Government institutions dealing with different aspects of the environment in Zanzibar

Ministry	Department	Specific responsibilities
Ministry of Water, Construction and Energy	Department of Environment	Environmental law and setting of environmental standards
Ministry of Lands and Environment	Department of Lands	Land management, administration and control
	Department of Urban Planning and Surveying	Urban planning, land use planning, development control and physical standards
Ministry of State for Regional Administration		Coordination of all aspects related to regional and district administration and local government (municipal councils, wards and *shehias*)
Ministry of Agriculture, Resources, Livestock and Fisheries		Agriculture, livestock, natural resources, fisheries and forestry

14.3 Policy and legal framework for EIA

14.3.1 National Environmental Action Plan

In 1994, the then Ministry of Tourism, Natural Resources and Environment (Tanzania) took the first step towards incorporating environmental concerns into national planning and development in Tanzania, with the publication of the NEAP.[7] The NEAP identified the following six major national issues in need of urgent attention on the Tanzanian mainland:

- Land degradation;
- Access to good quality water;
- Pollution;
- Loss of wildlife habitats and biodiversity;
- Deterioration of marine and freshwater systems; and
- Deforestation.

The NEAP laid the foundation for the National Environmental Policy to be formulated for the Tanzanian mainland.

14.3.2 National Environmental Policy (Tanzania)

The National Environmental Policy, adopted in 1997, seeks to provide the framework for making the fundamental changes required in order to incorporate environmental considerations into the mainstream of decision-making.[8] It provides guidance and planning strategies to determine how actions should be prioritised, and requires the monitoring and regular review of policies, plans and programmes. It further provides for sectoral and cross-sectoral policy analysis, so that compatibility among sectors and interest groups can be achieved and the synergies between them exploited.

The overall objectives of the National Environmental Policy are as follows:

- Ensure the sustainability, security and equitable use of resources in meeting the basic needs of present and future generations without degrading the environment or risking health and safety.
- Prevent and control the degradation of land, water, vegetation and air, which constitute the country's life support systems.
- Conserve and enhance the country's natural and manmade heritage, including the biological diversity of Tanzania's unique ecosystems.
- Improve the condition and productivity of degraded areas, as well as rural and urban settlements, in order that all Tanzanians may live in safe, healthy, productive and aesthetically pleasing surroundings.
- Raise public awareness and understanding of the essential links between the environment and development, to promote individual and community participation in environmental action.
- Promote international cooperation on the environment agenda, and expand participation in and contribution to the relevant bilateral, subregional, regional and global organisations and programmes, including the implementation of treaties.

7 Republic of Tanzania, 1994. *National Environmental Action Plan: A first step.* Dar es Salaam: Ministry of Tourism, Natural Resources and Environment.

8 Republic of Tanzania, 1997. *National Environmental Policy.* Dar es Salaam: Office of the Vice-President.

14.3.3 Environmental Management Act (Tanzania)

The National Environmental Management Act, No. 19 of 1983, started the process of regulating environmental management in Tanzania. Although draft EIA guidelines and procedures were produced in 1997 and amended in 2003, the country lacked a coherent code of supporting legislation to enable effective environmental management. Therefore, a study was initiated with funding from the World Bank, known as the Institutional and Legal Framework for Environmental Management Project. This culminated in the promulgation of the EMA in 2004. The EMA repeals the National Environmental Management Act of 1983.

The 2004 EMA specifies detailed measures for protecting ecological processes, the sustainable utilisation of ecosystems, and environmental protection, and is organised into the following parts:

Part I: Preliminary provisions
Part II: General principles
Part III: Administrative and institutional arrangements
Part IV: Environmental planning
Part V: Environmental management
Part VI: Environmental impact assessment
Part VII: Strategic environmental assessment
Part VIII: Pollution prevention and control
Part IX: Waste management
Part X: Environmental quality standards
Part XI: Environmental restoration, easements and conservation orders
Part XII: Analysis and records
Part XIII: Environmental information, education and research
Part XIV: Public participation in environmental decision-making
Part XV: International agreements
Part XVI: Compliance and enforcement
Part XVII: Environmental Appeals Tribunal
Part XVIII: National Environmental Trust Fund
Part XIX: Financial provisions
Part XX: General and transitional provisions

The Act seeks to legalise current environmental policy and harmonise the legislation. Of specific interest for EIA practitioners are Parts VI, VII and XIV. The EIA procedures that have to be followed in terms of this Act are described in more detail in section 14.4 of this chapter.

The EMA defines the term 'environment' as being 'the surroundings of human beings including air, land, water, climate, sound, light, odour, taste, micro-organisms, the biological factors of animals and plants, cultural resources and the social economic factor of aesthetics and includes both the natural and the built environment and the way they interact.' This definition limits the scope of the interpretation of the term to the biophysical surroundings of the human being; the references to 'social' and 'economic' are made only in terms of aesthetics[9] rather than in a broader interpretation of the socio-economic system in which human beings live and work. The final clause of the definition does attempt to bring together the natural and human environment, but only in terms of the built environment, rather than a dynamic system of human activity and interaction.

The EMA sets out several guiding principles, foremost of which is the right of every person in Tanzania to a clean, safe and healthy environment.[10] In addition, it lists a further eight principles for sustainable development (section 5(3)):

- Precaution;
- Polluter pays;
- Ecosystem integrity;
- Public participation in the development of policies, plans and processes for the management of the environment;
- Access to justice;
- Inter- and intragenerational equity;
- International cooperation on the management of environmental resources shared by two or more states; and
- Common but differentiated responsibilities.

While there is no specific reference to gender, the concepts of equity and justice intrinsically encompass the rights of all people to be heard and to participate in the EIA process, regardless of gender, religion or culture.

14.3.4 EIA and Audit Regulations

The EIA and Audit Regulations were published in terms of the EMA, 2004, in Government Notice No. 349 on 4 November 2005. The Regulations are divided into 12 parts:

Part I: Preliminary provisions
Part II: General prohibition
Part III: Project registration and screening
Part IV: The environmental impact assessment
Part V: The Environmental Impact Statement
Part VI: Review process of Environmental Impact Statement
Part VII: Decision of the Minister

9 Aesthetic factors include aspects of *perceived* environmental quality, e.g. a beautiful view or an ugly building, and reflect each person's subjective view of reality.
10 Section 4(1) of the EMA.

Part VIII: Access to Environmental Impact Statements and information
Part IX: Period of validity
Part X: Environmental audit
Part XI: Monitoring
Part XII: General provisions

The Regulations also have four Schedules, as follows:
First Schedule: Types of projects requiring an EIA
Second Schedule: Project screening criteria
Third Schedule: Forms for EIA
Fourth Schedule: Steps for conducting EIA

The Regulations set out in detail the process to be followed in conducting an EIA, the form and content of EIAs, the review process, decision-making processes and appeals. The EIA steps are discussed in section 14.4 of this chapter.

14.3.5 Permits and licences

An activity listed in the First Schedule of the EIA and Audit Regulations (see also Appendix 14-1 of this chapter) cannot proceed without obtaining the necessary licence from the relevant licensing authority (line ministry). The licensing authority, however, will not issue a licence without having first received an *EIA Certificate* from the NEMC. The EIA Certificate can be transferred from one holder to another should the ownership of the project change hands. However, the NEMC must be informed of the transfer within 30 days[11] and all the necessary forms must be completed (see Forms 7 and 8 in the Third Schedule of the Regulations). The developer must commence with his/her authorised development within three years; otherwise, s/he will have to reregister with the NEMC.

Developers are encouraged to consult the line ministry responsible for their sector project regarding other permitting and licensing requirements (see also Table 14.13).

14.3.6 Offences and penalties

A range of offences and penalties is set out in Part XVI of the EMA. Those relating to EIA and environmental standards are listed in Table 14.2.

11 Section 84(2) of the EMA.

Table 14.2: Offences and penalties relating to EIA and environmental quality

Relevant section of EMA	Infringement	Penalty
184	Failure to submit a Project Brief or an EIA or making a false statement in an EIA	TZS0.5 – 10 million and/or imprisonment for two to seven years
186	Contravention of any environmental standards or guidelines where no specific penalty is prescribed	TZS2 – 10 million and/or imprisonment for two to seven years
187	Causing pollution contrary to the provisions of the EMA	TZS3 – 50 million and/or imprisonment for up to 12 years, AND the full cost of the clean-up of the polluted environment
191	General penalty for non-compliance with any provision in the Act for which no specific penalty is prescribed	TZS50 000 – 50 million and/or imprisonment for three months to seven years

14.3.7 Fees

The Regulations mention prescribed fees to accompany the various applications in the EIA process. Developers are requested to contact the NEMC for the latest information on the fees for each step. Fees are also required to access Council records of decision, EIS documents and the register of EIA practitioners.

The developer is responsible for all professional fees, costs and expenses associated with the preparation of an EIS.

14.3.8 Guidelines

The EIA Guidelines and Procedures are intended primarily for various stakeholders in the EIA process. They explain how the requirements for EIAs for main projects should be incorporated into the project approval process in Tanzania.

The Guidelines will eventually become integrated into the Regulations and will be part of the body of environmental law in the country. They are in the form of a guidebook comprising three parts.[12]

Part I explains the procedures that apply to projects that fall within the scope of Schedule 1 (Type A projects requiring EIA and Type B projects that may require EIA). It also provides details of obligations and responsibilities in the EIA process.

12 www.nemctan.org/eiaguide.htm

Part II accounts for various stages in the EIA procedure and gives detailed guidelines for the following stages: registration, screening, scoping, EIA report writing, review and monitoring.

Part III contains annexures relevant to the EIA process and procedures, including:

- List of projects for which mandatory EIAs are required (see also Appendix 14-1 of this Handbook);
- A list of projects that may require an EIA (see Appendix 14-2);
- Model Terms of Reference for an EIA;
- Explanation of the review criteria that will be applied by the authorities;
- A general checklist of environmental characteristics;
- Guidance on how to submit an environmental assessment registration form;
- A list of relevant authorities to be consulted; and
- EIA procedures and flow diagrams.

In addition, guidelines have been developed for several sectors, as shown, with their status, in Table 14.3.

Table 14.3: Sector EIA Guidelines

Guidelines for sector	Status
Roads (2005)	Being tested
National parks	In use
Marine parks and reserves	Finalised
Mariculture development	Inclusion of EIA in sector's own guidelines
Coastal tourism	Inclusion of EIA in sector's own guidelines

14.3.9 Environmental standards

In terms of section 140(1) of the EMA, the National Environmental Standards Committee of the Tanzanian Bureau of Standards is required to develop, review and submit proposals for environmental standards relating to: water quality, discharge of effluent, air quality, noise and vibration, subsonic vibration, ionising and other radiation, soil quality, noxious smells, light pollution, electromagnetic waves and microwaves.

Preparing the different standards is the work of the Environmental Management Divisional Standards Committee (EMDC) of the Tanzanian Bureau of Standards, which is a cross-section of various stakeholders chaired by the Vice-President's Office. According to the 2004 EMA, as well as the Standards Act, the procedures of preparing national standards involve input from stakeholders. Since the EMDC comprises a limited number of members, draft standards approved by the Committee are floated for public comments before their finalisation. The approval stage comes only after all public comments have been collated.

Because of the diversity of the various standards needed to manage the environment, the EMDC has formed a number of subcommittees, known as Technical Committees, to elaborate the work of drafting the various standards. These Technical Committees are normally chaired by the respective sectoral ministry or the relevant lead agency. The Tanzania Bureau of Standards provides the secretariat services.

The National Environmental Standards Compendium is a collection of various standards, divided into three parts. Part 1 comprises compulsory standards; these are categorised as generic or specific. Specific standards cover industries with particular effects on the environment, while other industries without a specific standard are regulated by generic standards. These standards are listed in Tables 14.4 to 14.12.

Part 2 of the Compendium contains standards that may be implemented on a voluntary basis. These include guideline standards, codes of practice, and other standards that may not necessarily be directly enforced, but whose results are implied in some legal requirements. One such standard is the Environmental Management Systems standard, like TZS 701/ISO 14001, whose compliance specifications include the relevant legal requirements. Part 2 thus has important requirements for companies and developers who wish to demonstrate their commitment to sustainable development by way of self-regulation. Part 2 also includes standards used in evaluating environmental performance.

Part 3 has the requisite test methods to be followed when testing for compliance. The test methods included are referred to in at least one of the specification standards appearing under Part 1.

Standards have been developed for industrial effluents, drinking water, air quality and noise. These are listed in Tables 14.4 to 14.12.

Table 14.4: Permissible limits for municipal and industrial wastewater

Parameter	Limit*
Biological oxygen demand at 20˚C	30
Chemical oxygen demand	60
Colour	300 TCU
pH range	6.5 - 8.5 units
Temperature range	20 - 35˚C
Total suspended solids	100
Turbidity	300 NTU
Aluminium (as Al)	2.0
Arsenic (As)	0.2
Barium (Ba)	1.5
Cadmium (Cd)	0.1
Chromium (total)	1.0
Chromium (hexavalent)	0.1
Chlorides (Cl)	200
Cobalt (Co)	1.0
Copper (Cu)	2.0
Fluorides (F)	8
Iron (Fe)	5.0
Lead (Pb)	0.1
Manganese (Mn)	5.0
Mercury (Hg)	0.005
Nickel (Ni)	0.5
Nitrates (NO_3)	20
Phosphorus total (as P)	6
Selenium (Se)	1.0
Silver (Ag)	0.1
Sulphate (SO_4)	500
Sulphides (S)	1
Tin (Sn)	2.0
Total Kjedahl nitrogen (as N)	15
Vanadium (V)	1.0
Zinc (Zn)	5.0
1,1,2 – Trichloroethane	0.06
1,1,1 –Trichloroethane	3.0
1,2 - Dichloroethylene	0.2
1,2 – Dichloroethane	0.04
1,3 – Dichloropropene	0.2
Alkyl benzene sulphonate	0.5
Aromatic nitrogen-containing compounds (e.g. aromatic amines)	0.001
cis-1, 2- Dichloroethylene	0.4
Dichloromethane	0.2
Oil and grease (fatty matter and hydrocarbons)	10
Organochlorine pesticides (Cl)	0.0005
Other aromatic and/or aliphatic hydrocarbons not used as pesticides	0.05
Pesticides other than organochlorines	0.01
Phenols	0.002
Tetrachloroethylene	0.1
Tetrachloromethane	0.02
Trichloroethylene	0.3
Total coliform organisms	10 000 counts/100ml

* All units in mg/l except where indicated.
TCU: true colour unit
NTU: nephelometric turbidity unit

Table 14.5: Specific tolerances for effluents from various industries

Parameters	Tolerance limits*		
	Chrome tanning	Vegetable tanning	Fertiliser industry
Chlorides (as Cl), max.	1 000	1 000	-
Biochemical oxygen demand for 5 days at 20˚C, max.	30	30 (up to 100)	-
Hexavalent chromium (as Cr), max.	0.1	-	-
pH	5.5 - 9.0 units	5.5 - 9.0 units	5.5 - 9.0 units
Suspended solids, max.	-	100	-
Colour and odour	-	Absent	-
Dissolved phosphate (as P), max.	-	-	5
Dissolved fluorides (as F), max.	-	-	15

* All units in mg/l except where indicated.

Table 14.6: Drinking water standards

Parameter	Lower limit*	Upper limit*
Lead (Pb)		0.1
Arsenic (As)		0.05
Selenium (Se)		0.05
Chromium (Hexavalent) (Cr)		0.05
Cyanide (CN)		0.20
Cadmium (Cd)		0.05
Barium (Ba)		1.0
Mercury (Hg)		0.001
Fluoride (F)	1.5	4.0
Nitrate (NO_3)	10.0	75.0
Colour	1.5 TCU	50 TCU
Turbidity	5 NTU	25 NTU
Taste	Not objectionable	
Odour	Not objectionable	
pH	6.5 units	9.2 units
Total filterable residue	500	2 000
Total hardness as $CaCO_3$	500	600
Calcium (Ca)	75	300
Magnesium (Mg)	50	100
Magnesium + sodium	500	1 000
Sulphate (SO_4)	200	600
Chloride (Cl)	200	800
Iron (Fe)	0.3	1.0
Manganese (Mn)	0.1	0.5
Copper (Cu)	1.0	3.0
Zinc (Zn)	5.0	15.0
Biological oxygen demand (5 days at 30˚C)	6.0	6.0
Absorbed oxygen (as $KMNO_4$)	10	20
Ammonium, (NH_3 + NH_4)	2.0	2.0
Total nitrogen (excluding NO_3)	1.0	1.0
Surfactants (alkyl benzyl sulphonates)	1.0	2.0
Organic matter (as carbon in chloroform extract)	0.5	0.5
Phenolic substances (as phenol)	0.002	0.002
Gross alpha activity		0.1 Bq/l
Gross beta activity		0.1 Bq/l

* All units in mg/l except where shown otherwise.
TCU: true colour unit
NTU: nephelometric turbidity unit

Table 14.7: Ambient air quality standards

Pollutant	Guideline	Limit Level
Sulphur oxides, SOx	Annual mean of 40 – 60 µg/Nm³ (0.05 – 0.08 mg/kg) or 24-hour average 100 µg/Nm³ (0.129 mg/kg)	Daily average of hourly values shall not exceed 0.1 mg/kg 0.5 mg/Nm³ for 10 minutes
Carbon monoxide, CO	Aims at preventing carboxyhaemoglobin levels exceeding 2.5% – 3% in non-smoking people	A maximum permitted exposure of 100 mg/Nm³ for periods not exceeding 15 minutes Time-weighted exposure at the following levels: • 100 mg/Nm³ for 15 minutes • 60 mg/Nm³ for 30 minutes • 10 mg/Nm³ for 8 hours or Daily average of hourly values shall not exceed 10 mg/kg and average of hourly values in eight consecutive hours shall not exceed 20 mg/kg.
Black smoke and suspended particulate matters (PM10)	Black smoke: 40 – 60 µg/Nm³ (0.05 – 0.08 mg/kg) PM10: 60 – 90 µg/Nm³ (0.05 – 0.116 mg/kg)	Daily average of hourly values shall not exceed 0.10 µg/Nm³ and hourly values shall not exceed 0.20 µg/Nm³
Nitrogen dioxide (NO_x)	Annual mean of 0.1 µg/Nm³	150 µg/Nm³ for 24-hours average value 120 µg/Nm³ for 8 hours
Lead	Annual mean of 0.5 – 1.0 µg/Nm³	1.5 µg/Nm³ for 24-hours average value
Ozone	Annual mean of 10 – 100 µg/Nm³	120 µg/Nm³ for 8-hours average value

PM10: particulate matter smaller than about 10 micrometres

Table 14.8: Air quality emission limits

Pollutant	Guideline	Limit Level
Sulphur oxides, SOx	LCP using *solid* fuel with thermal effect of: 50 – 100 MWth 100 – 300 MWth >300 MWth	 850 mg/Nm^3 200 mg/Nm^3 200 mg/Nm^3
	LCP using *liquid* fuel with thermal effect of: 50 – 100 MWth 100 – 300 MWth >300 MWth	 850 mg/Nm^3 400 – 200 mg/Nm^3 (linear decrease) 200 mg/Nm^3
	LCP using gaseous fuel	35 mg/Nm^3
	LCP using *low calorific* gases from gasification of refinery residues, coke oven gas, blast furnace gas	800 mg/Nm^3
Carbon monoxide, CO	*Liquid* fuel combustion with heat output exceeding 5 MW	Not to exceed 175 mg/Nm^3
	Solid fuel combustion with the heat output exceeding 50 MW	Not to exceed 250 mg/Nm^3
Hydrocarbon (as total organic carbon)		Not to exceed 20 mg/Nm^3
Dust	Inert dust, including cement	Not to exceed 250 mg/Nm^3 (24-hour mean value)
Nitrogen oxides * (NO_x)	LCP using *solid* fuel with thermal effect of: 50 – 500 MWth >500 MWth	Yearly average of: 600 mg/Nm^3 500 mg/Nm^3
	LCP using *liquid* fuel with a thermal effect of: 50 – 500 MWth >500 MWth	 450 mg/Nm^3 400 mg/Nm^3
	LCP using gaseous fuel with a thermal effect of: 50 – 500 MWth >500 MWth	 300 mg/Nm^3 200 mg/Nm^3
Lead		Not to exceed 5 tonnes/year of lead or lead compounds (measured as elemental lead) by a stationary source

LCP: large combustion plants

Table 14.9: Maximum permissible levels for general environmental noise

Facility	Noise limits (dBA (Leq))	
	Day	Night
Any building used as a hospital, convalescence home, home for the aged, sanatorium, learning institution, conference room, public library or environmental and recreational site	45	35
Residential buildings	50	35
Mixed residential (with some commercial and entertainment)	55	45
Residential and industry or small-scale production and commerce	60	50
Industrial areas	70	60

Table 14.10: Maximum permissible noise levels (continuous or intermittent noise) from a factory or workshop

Sound levels (Leq dBA)	Duration (daily)	Duration (weekly)
85	8.00 hours	40.00 hours
88	4.00 hours	20.00 hours
91	2.00 hours	10.00 hours
94	1.00 hours	5.00 hours
97	30.00 minutes	2.50 hours
100	15.00 minutes	1.25 hours
103	7.50 minutes	37.5 minutes
106	3.75 minutes	18.75 minutes
109	1.87 minutes	9.37 minutes

Table 14.11: Maximum permissible noise levels for impact or impulsive noise

Sound level (dBA Lmax)	Permitted number of impulses or impacts per day
140	100
130	1 000
120	10 000

Table 14.12: Maximum permissible sound levels for mines and quarries

Facility	Limit value in dBC
For any building used as a hospital, school, convalescence home, home for the aged or residential building	109 dBC
For any building in an area used for residential and one or more of the following purposes: Commerce, small-scale production, entertainment or any residential apartment in an area that is used for purpose of industry, commerce or small-scale production	114 dBC

14.3.10 Certification of consultants

Section 83 of the EMA makes provision for regulations to be made on the registration of environmental consultants. The Act requires EIAs to be conducted only by experts or firms of experts whose names and qualifications are registered by the NEMC. The Environmental (Registration of Environmental Experts) Regulations, 2005, published in Government Notice No. 348 of 2005, set out the objectives of the certification process, the establishment of the Environmental Experts Advisory Committee, the certification process for environmental experts, the registration process, the code of practice and disciplinary procedures.

In order to conduct an EIA or carry out an environmental audit in Tanzania, the environmental practitioner must be certified as an environmental expert. Applications to the NEMC must be made on the form presented in the First Schedule of the Environmental Experts Regulations, together with the required documentation relating to the applicant's qualifications and three references. The Council will make a decision on whether to grant an Environmental Experts Certificate within 60 days of the date of application and the applicant will be notified within 14 days of the decision. Once an environmental expert has been certified and has paid the prescribed fee, his/her name will be entered onto a Register of Environmental Experts.

NEMC will register foreign consultants if they can:

- Provide proof of certification or accreditation from other competent certification bodies.
- Demonstrate that they have at least five years' experience in conducting EIAs.
- Provide two abstracts of previous EIAs or audits conducted during the last three years.
- Provide a curriculum vitae and at least three references, one of whom is registered in Mainland Tanzania.
- Pay the prescribed fee.

If the NEMC is satisfied with the competence of the foreign environmental expert, it shall issue a Certificate, which shall only be valid for the duration of the specific EIA or audit of the assignment. The Regulations do not specify a time limit for granting a certificate to a foreign consultant, but it should be assumed that the same timeframe as for local consultants applies, which is 60 days.

Consulting firms may apply to be registered as Consulting Firms of Environmental Experts. To qualify, firms must have at least one certified and registered environmental expert and two specialists from different specialisations. If the firm wants to undertake EIAs and environmental audits, it must make two separate applications. The application must be made on the application form contained in the First Schedule of the Environmental Experts Regulations, together with a list of the names of the persons in the company who have been certified and registered, and the kinds of expertise that the firm intends to offer regarding EIAs and/or audits. The Certificate granted to a firm must be renewed annually upon the payment of the prescribed fee.

All Certified Environmental Experts will be subject to the Code of Practice and Professional Ethics as prescribed in the Fifth Schedule of the applicable Regulations. However, there are no specific requirements stating that the consultants have to be independent of the proponent.

14.3.11 Zanzibar Environmental Management for Sustainable Development Act

The Zanzibar Environmental Management for Sustainable Development Act was developed in 1996 with the objective of protecting and managing the islands' environmental assets such that their capacity to sustain development is unimpaired and Zanzibar's rich environmental endowment is available for present and future generations to enjoy and use. Conservation and sustainable management of indigenous species of Zanzibar, some of which are rare and endemic, are emphasised in this Act.[13]

14.3.12 National Environmental Policy (Zanzibar)[14]

In 2010, the Zanzibar Commission for Lands and Environment in the Ministry of Water, Construction, Energy, Lands and Environment approved the National Environmental Policy for Zanzibar. The Policy has the following main aims:

- Ensure the maintenance of basic ecological processes upon which all productivity and regeneration, on land and in the sea, depend.

13 Foum, OH & Ali, FK, 2006. *Conservation of biodiversity: A case study of Zanzibar, Tanzania.* www.africanconservation.org/forum/research-articles-reports-talks/6716-conservation-of-biodiversity

14 Zanzibar Revolutionary Government, 2010. *National Environmental Policy (Zanzibar).* Zanzibar: Zanzibar Revolutionary Government.

- Promote the sustainable use of renewable resources and the rational use of non-renewable resources, and minimise irrational use, contamination or destruction of resources.
- Preserve the biological diversity, cultural reaches and natural beauty of Zanzibar's lands and seas.
- Ensure that the quality of life of the people of Zanzibar, present and future, is not harmed by destruction, degradation or pollution of their environment.
- Strengthen both the institutional mechanisms for protecting the environment and the capabilities of the institutions involved.[15]

The Policy aims to promote the following:

- Intersectoral and public-private cooperation in order to address conflict between the exploitation and conservation of natural resources;
- Sectoral plans compatible with the Policy;
- Preparation of and adherence to Integrated Land Use Plans at local and national levels;
- Development of a Coastal Zone Management Programme;
- Improved management of rural lands;
- Development of an information database relevant to the management of the environment;
- Development of a long-term research programme to inform strategies that will enable the sustainable use of resources;
- Establishment of permanent monitoring programmes on the status of the environment;
- Encouragement of community participation in matters relating to the environment;
- Promotion of control of the population growth rate through supporting the Family Planning Policy of the Ministry of Health;
- Strengthening of conservation of Zanzibar's indigenous plants and animals; and
- Promotion of the rational use of non-renewable resources, while minimising damage to the environment.

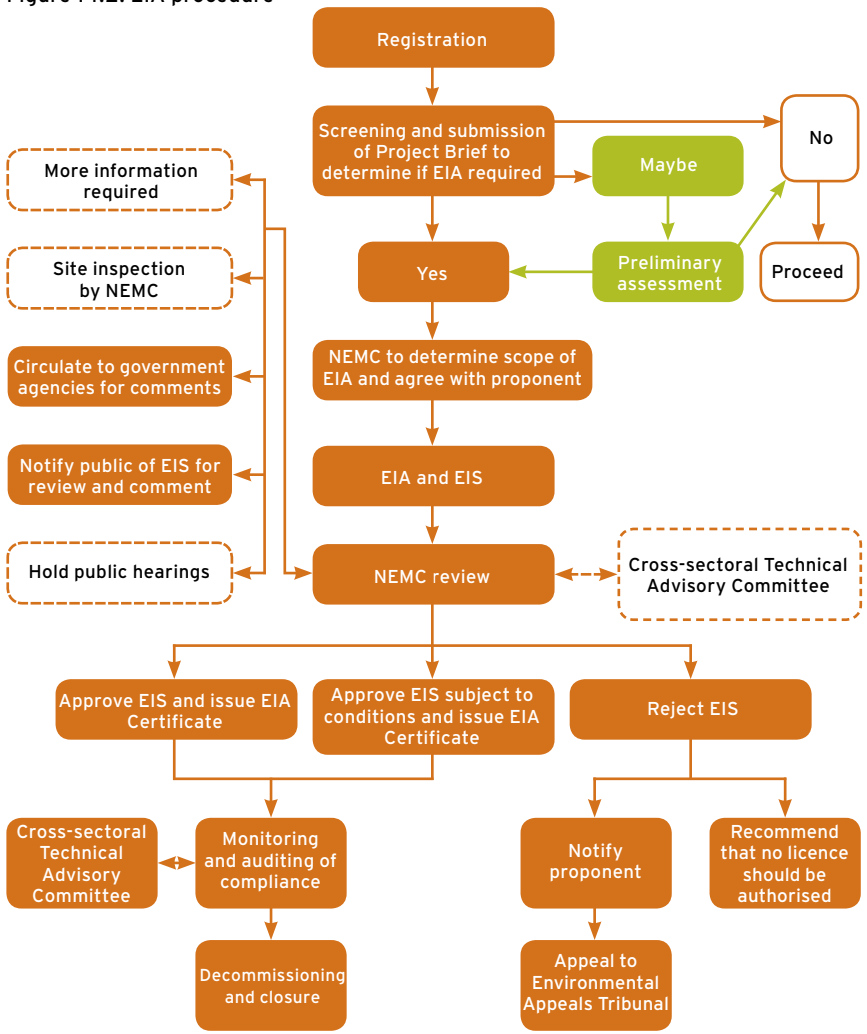
14.4 EIA procedural framework in Tanzania

The steps required to conduct an EIA are outlined in the following subsections and shown schematically in Figure 14.2.

14.4.1 EIA registration

The EIA registration form is designed to provide enough relevant information to enable the NEMC, environmental units of sector ministries and local authorities to set an appropriate level of assessment for a proposal referred to them. Failure to provide detailed information in a comprehensive manner may delay the assessment process. It is not expected that this form will be appropriate for all purposes and, depending on the nature of the proposal, a detailed document may be necessary in addition to this form. Guidance for completing the registration form is provided in Part III of the EIA Guidelines and Procedures. The applicant is also required to submit a proposal with some basic facts about the project, its location, the services required and the general characteristics of the environment. This information is used in screening (see below).

Figure 14.2: EIA procedure



15 Statement by the Minister of Water, Construction, Energy, Lands and Environment. www.tanzania.go.tz

14.4.2 Screening

Screening is the process of classifying a proposal to determine the level at which environmental assessment will be carried out. It is the first stage of the impact assessment process after the registration of a project proposal. Screening is undertaken using information on the registration form and/or additional information provided in the submitted proposal.

The NEMC is responsible for screening projects. Projects of national interest or highly risky and contentious projects with potentially serious and multidimensional environmental concerns will be screened by the NEMC, while the more localised projects are screened by the local authority where the project is situated, under the guidance of the NEMC. No projects will be screened or subsequently reviewed by sector ministries, but these ministries can have representation on the cross-sectoral Technical Advisory Committee (section 14.2.4).

The screening procedure (see Figure 14.2) will lead to one of the following decisions:

- An EIA is required where the project is known to have significant adverse environmental impacts (Type A projects – see Appendix 14-1).
- A preliminary environmental assessment is required where more information is needed in order to make a more informed screening decision (Type B projects – see Appendix 14-2).
- An EIA is not necessary where the project is unlikely to cause significant environmental impacts.

An EIA is mandatory for projects that are known to have the potential for significant impacts on the environment. They are listed in the First Schedule of the EIA and Audit Regulations (see Appendix 14-1). An EIA is also mandatory for projects to be developed within or near environmentally sensitive and/or critical areas. These areas are known to be fragile or valuable environments that can easily be harmed by the effects of the development. A list of environmentally sensitive and/or critical areas is given in Appendix 14-3 of this Handbook and in the EIA Guidelines.

The following criteria will be taken into account while conducting screening to determine whether an EIA is required: key project parameters, affected areas, the importance and scale of impacts on the environment, and the likely degree of public opposition. The EIA Guidelines provide guidance on each of these criteria.

Following the screening procedure, a screening report must be prepared and presented to the proponent *within 30 days* from the date of registration.

14.4.3 Scoping and Terms of Reference

Scoping is defined as a consultative procedure that culminates in the determination of the extent of and approach to an EIA. It is required if the screening report indicates that the undertaking will result in significant adverse impacts and will thus require an EIA to be undertaken. It is an early and open process for determining the scope of issues related to the proposed action.

Communities are comprised of many interest groups with conflicting objectives (e.g. men and women, who have different rights and responsibilities; educated young people versus older, traditional people; or different economic groups). The role of the public consultation in EIA should not be to suppress these differing views but to provide a mechanism for identifying and trying to solve problems around the implementation in a constructive way.

Public consultation can be undertaken during:

- The preparation of EIA Terms of Reference;
- The preparation of the EIA report;
- The review of the EIA report;
- The preparation of terms and conditions for EIA acceptance or approval.

The objectives of scoping are as follows:

- Provide an opportunity for the proponent, his/her consultants, the relevant authorities and interested and affected parties in a project area to exchange information and express their views and concerns about the proposal before an EIA is undertaken.
- Focus the study on reasonable alternatives and relevant issues to ensure that the resulting EIA is useful to decision-makers and addresses the concerns of interested and affected parties.
- Facilitate an efficient assessment process that saves time and resources, and reduces costly delays that could arise where consultation had not taken place.
- Determine the Terms of Reference and boundaries of the EIA study.

The proponent and his/her consultants have the final responsibility for scoping. The proponent may consult the NEMC for advice on the identification of a competent consultancy.

A scoping programme prepared by those responsible should indicate the following:

- The authorities and public that are likely to be concerned (i.e. stakeholders);
- The method(s) by which the stakeholders will be notified;
- The methods that will be used to inform them of the proposal and solicit comments; and

- The stage(s) of the assessment process at which opportunities will be provided for public input.

The proponent or his/her consultant must prepare a written report on the results of the scoping exercise. This will serve as a record for interested and affected parties and as guidelines for the EIA evaluation. The scoping report should at least indicate:

- How scoping was undertaken;
- How the public was involved;
- How the authorities and interested and affected parties were consulted, including dates and summaries of issues raised;
- Alternatives that should be examined in the EIA;
- The issues of concern; and
- The specific guidelines for undertaking and preparing the EIA.

Following an identification of the main environmental issues of concern and how various stakeholders will be involved, the proponent or his/her consultant prepares the Terms of Reference for the EIA. First, the proponent should prepare a draft Terms of Reference and submit 15 copies to NEMC. The Terms of Reference should be accompanied by the scoping report and provide formal guidance for practitioners on the range of issues that must be addressed in the EIA process. They should also form a basis for the subsequent review process.

The Terms of Reference must indicate that the EIS should include the following:

- A description of the proposed undertaking and an analysis of the need or reason for the undertaking;
- The objective of the undertaking;
- Other options for carrying out the undertaking;
- Alternatives to the undertaking;
- A description of the present environment that would be affected, directly or indirectly;
- A description of the future environment, predicting its condition if the undertaking did not take place;
- The impacts that the undertaking may have on the environment;
- Proposed measures to prevent or mitigate all adverse impacts;
- An evaluation of opportunities and constraints in the environment of the undertaking;
- A proposal for an environmental management programme to cover the construction, operational and decommissioning stages of the undertaking;
- A proposal for environmental monitoring; and
- A proposed programme for public information.

The Terms of Reference should be submitted to the NEMC for approval. Where necessary, a visit to the site(s) will be made. The outcome of the review of the Terms of Reference should be communicated to the proponent within a period not exceeding 30 days. A model EIA Terms of Reference is provided in Appendix 3 of the EIA Guidelines. Upon approval of the Terms of Reference, the environmental investigation and preparation of an EIS can follow immediately.

14.4.4 Environmental Impact Statement

The EIS is to be prepared in accordance with Part VI of the EMA, 2004, and Parts IV and V of the EIA and Audit Regulations. Before submitting the EIS to the NEMC, the proponent shall consult the relevant authorities, agencies or organisations listed in Table 14.13 below.

Table 14.13: Relevant authorities to be consulted when preparing the EIS

Description of development	Consultee
Development likely to affect land in cities, municipalities and towns or urban areas	The urban planning authorities concerned
Development likely to affect rural land, other than land in national parks, conservation land and protected land	The local authorities concerned
Development likely to affect land in national parks, conservation authorities and reserve land	Ministry of Natural Resources and Tourism Tanzania National Parks Authority Conservation area authorities
Development involving the manufacture, processing, keeping or use of hazardous substances in such circumstances that there will at any one time be, or is likely to be, a notifiable quantity of such substance in, on or under any land	Ministry of Health Chief Government Chemist
Development likely to result in a material increase in the volume of traffic or a material change in its character	Ministry of Transport and Communication Ministry of Home Affairs
Development likely to result in a material increase in the volume of traffic or a material change in the character of traffic entering or leaving a classified or proposed road	Ministry of Works Tanzania Roads Authority Ministry of Home Affairs
Development likely to prejudice the improvement or construction of a classified or proposed road	Ministry of Works Tanzania Roads Authority
Development involving the formation, laying out or alteration by any means of access to a highway (other than a trunk road)	The local authority concerned
Development involving or including mining operations	Ministry of Energy and Minerals
Development of land in urban areas, involving the demolition in whole or part or the material alteration of a listed building	Ministry of Natural Resources and Tourism The urban authority concerned

Table 14.13: Relevant authorities to be consulted when preparing the EIS *(continued)*

Description of development	Consultee
Development involving the carrying out of works or operations in the bed or on the banks of a river or stream	Ministry of Water and Livestock Development The local authority concerned
Development for the purpose of refining or storing mineral oils and their derivatives	Ministry of Energy and Minerals
Development involving the use of land for the deposit of refuse or waste	The urban authorities concerned in the case of urban land, or the local authorities concerned in the case of rural land
Development relating to the retention, treatment or disposal of sewage, slurry or sludge (other than the laying of sewers, the construction of pump houses in a line of sewers, the construction of septic tanks and cesspools servicing single buildings in which no more than ten people will normally reside, work or congregate, and works ancillary thereto)	The local authorities concerned, Ministry of Water and Livestock Development
Development relating to the use of land as a cemetery	The local authority concerned
Development in an area of special scientific interest	Ministry of Science and Technology Ministry of Heath National Scientific Council
Development that is not for agricultural purposes and is not in accordance with the provisions of a development plan and involves: (i) Loss of a substantial amount of agricultural land that is for the time being used (or was last used) for agricultural purposes; or (ii) Loss of a substantial amount of agricultural land that is for the time being used (or was last used) for agricultural purposes, in circumstances in which development is likely to lead to a further substantial loss of agricultural land	Ministry of Lands and Human Settlements The local authority concerned Ministry of Agriculture and Food Land Use Planning Commission
Development within 250 m of land that is or has, at any time in 30 years before the relevant application, been used for the deposition of refuse or waste	The local authority concerned Ministry of Health

Note: The NEMC may require the proponent or his/her consultants to consult with the National Consultee(s) or any specific person, as it may deem appropriate.

The EIS must address all aspects listed in the Terms of Reference and contain at least the following:

- Introduction, including the proposed location of the project and a general overview;
- Project description, including its objectives; the technology, procedures and processes to be used; materials to be used in construction and operation of the project; the products, by-products and wastes generated by the project; and the identification and assessment of project alternatives;
- A concise description of the national policy and the administrative and legislative framework;
- A description of the environmental baseline conditions, including specific information necessary for identifying and assessing the environmental effects of the project;
- An assessment of the impacts of the project on the environment, negative and positive, direct and indirect, including the duration, scale and significance, as well as confidence levels in the predictions;
- Recommended measures to manage or mitigate the environmental impacts;
- An environmental and social management plan;
- An environmental and social monitoring plan;
- Resource evaluation or cost-benefit analysis;
- Decommissioning and closure plans;
- Summary and conclusions; and
- Appendices with all supporting documentation, including details of the public participation process.

Detailed guidance on the report contents may be found in the EIA Guidelines.

The EIS must also include an executive summary. A non-technical study must be prepared in both Kiswahili and English as per the requirements specified in Regulation 18 of the EIA and Audit Regulations, setting out the main findings, conclusions and recommendations of the EIS. All members of the EIA team must sign the EIS. Once completed, 15 copies plus an electronic copy must be submitted to the NEMC, together with Form No. 2 (of the Third Schedule) and the prescribed fees for evaluation and review.

14.4.5 Review of Environmental Impact Statement

On completion of the EIS, the developer must submit all the required documentation, including Form No. 2 of the Third Schedule of the EIA and Audit Regulations, to the NEMC for review. The Council has *60 days* to carry out its review, which includes some mandatory and discretionary activities. These are shown in Figure 14.2 in solid and dashed boxes respectively.

In conducting its review, the Council may:

- Set up a cross-sectoral Technical Advisory Committee to assist with the review (section 87(2)).
- Request the proponent to supply additional information (section 87(3)).
- Conduct an inspection and verification visit to the site of the proposed activity at the proponent's cost (section 88(1)).
- Hold public hearings within *30 days* of receiving the EIS (section 90).

Mandatory tasks of the Council include the following (section 89(2)):

- Circulate the EIS for written comments from various institutions and government agencies (the documents must be circulated within *14 days* of receipt by NEMC and the relevant agencies have *30 days* to comment).
- Notify the public of the availability of the EIS for review and written comment.
- Solicit oral or written comments from affected parties.

The NEMC's review must be based on the following criteria:

- The balance between short and long-term socio-economic benefits of the project and the detriment to the human and physical environment;
- The nature of the project or undertaking and how it is likely to meet environmental standards;
- The possible mitigation alternatives or other remedial measures;
- Comments received during public hearings and other consultative processes during the EIA process; and
- Any other criteria as may be prescribed in the Regulations (section 88(2)).

Once the NEMC has completed its review, it will make a decision to issue an EIA Certificate, to issue an EIA Certificate subject to conditions, or to reject the application, based on the following factors:

- The validity of the EIS, with emphasis on the environmental, economic, social and cultural impacts of the project;
- The comments made by the relevant ministries, institutions and other interested parties;
- The report of the chairman of the public hearing, where applicable;
- Advice of the Director of Environment; and
- Any other factors that may be considered important.

14.4.6 Appeals

Any party aggrieved by the decision can appeal to the Environmental Appeals Tribunal within *30 days* of the decision. There is further recourse to the High Court in the event that the aggrieved party does not receive satisfaction at the Tribunal. The procedures for appeals are set out in Part XVII of the EMA.

14.4.7 Environmental monitoring

The NEMC, in consultation with the relevant line ministry or government agency, may undertake inspections to determine the nature and significance of actual impacts from the implementation of the project and whether the developer is complying with the required mitigation measures listed in the EIS and/or in the conditions of the EIA Certificate. Persistent non-compliance on the part of the developer could result in the NEMC revoking the EIA Certificate and instituting legal proceedings for any damages that may have occurred because of such non-compliance.[16] The monitoring requirements and the form and frequency of monitoring reports are set out in detail in Part XI of the EIA and Audit Regulations.

14.4.8 Environmental audits

The NEMC is also responsible for carrying out environmental audits of the development, or commissioning qualified auditors to do so. The audit may include an inspection of all documentation relating to, inter alia, monitoring data, sampling results and specialist reports, which may confirm that the developer is in compliance with all conditions and requirements and that all reasonable measures are being taken to mitigate any unforeseen negative impacts.[17] Audits must be carried out for all projects listed in the First Schedule of the EIA and Audit Regulations within 12 months of the commencement of operations. The frequency of subsequent audits will be determined at the time of the initial audit. The form of the audit and the contents of the audit report are set out in Regulations 51 and 52 respectively of the EIA and Audit Regulations.

The audit report must be signed off by the auditors and is then sent for review by the cross-sectoral Technical Advisory Committee (see Figure 14.2).

14.4.9 Decommissioning and release of environmental performance bond

The proponent is responsible for safe decommissioning of the project, site rehabilitation and ecosystem restoration before a project is closed down. The environmental performance bond, deposited in terms of section 227 of the EMA, will not be released until the proponent has fulfilled all the environmental obligations of closure.

14.4.10 Strategic environmental assessment

Strategic environmental assessments are required in terms of Part VII of the EMA in the following instances:

- When preparing a Bill that is likely to have an effect on the management, conservation and enhancement of the environment or the sustainable management of natural resources;
- When promulgating Regulations, policies, programmes and development plans; and
- When any major mineral or petroleum resource is identified or when a major hydroelectric power station or water project is being planned.

16 Sections 99 and 100 of the EMA.
17 Section 101 of the EMA.

The strategic environmental assessment for a policy, Bill, legislation, strategy, programme or plan must contain the following information:

- A full description of the policy, Bill, legislation, strategy, programme or plan being considered;
- The identification, description and assessment of the positive and negative effects of the implementation of the proposed document on the environment and the sustainable management of natural resources;
- The identification, description and assessment of the likely effects of alternative means to meet the objectives of the proposed instrument; and
- The identification, description and assessment of a range of practicable measures that could be taken to avoid, mitigate or remedy any adverse effects that may result from the implementation of the proposed policy, Bill, legislation, strategy, programme or plan.[18]

The responsible sector ministry must undertake the strategic environmental assessment for a major mining or petroleum project, hydroelectric power station or water development. The assessment for such a development must include:

- Baseline environmental conditions and status of natural resources;
- Identification of ecologically sensitive and protected areas;
- Identification and description of communities around the area;
- Existing socio-economic conditions;
- Existing economic activities and infrastructure;
- Proposed developments, including long-term scenarios and the cumulative effects of a number of different developments in the same sector;
- Infrastructure and resources required to service these developments;
- Potential environmental and social impacts of the proposed development; and
- Recommendations for land reclamation and limitations on development in different areas.[19]

The strategic environmental assessment will be reviewed by the regulatory authorities, which will prepare a report on the adequacy of the assessment and make recommendations to the relevant decision-makers. If favourable, the assessment report will be approved.

14.4.11 Transboundary impacts

Section 180 of the EMA makes provision for the Minister to initiate discussions with the relevant authorities of neighbouring countries on environmental management programmes and measures to avoid and minimise any transboundary environmental impacts that may currently occur or could arise from the development of a new project.

18 Section 104(3) of the EMA.
19 Section 105(2) of the EMA.

14.5 Other relevant environmental legislation in Tanzania

Environmental issues cut across a range of sectors; numerous pieces of legislation in Tanzania Mainland and Zanzibar have a bearing on the environment and should be considered in EIA decision-making. A summary of the sectors, titles of the legislative instruments and selected Acts, and the purpose of the legislation are provided in Table 14.14.

Table 14.14: Other potentially applicable sectoral requirements

Tanzania Mainland	Zanzibar
Wildlife, coastal, fisheries and marine resources • Marine Parks and Reserves Act, No. 27 of 1994 *(includes provisions for EIA)* • National Fisheries Sector Policy and Strategy Statement, 1997 • Fisheries Act, No. 22 of 2003 • Animal Welfare Act, 2008 • Management Plan for the Mangrove Ecosystem in Tanzania, 1991 • The Territorial Sea and Exclusive Economic Zone, 1989 • Deep Sea Fishing Authority Act, No. 17 of 2007 • Wildlife Conservation Act, 2009, repeals the Act of 1974. *(The objective of the Act is to protect and manage areas with high or important biodiversity, as well as contribute to and benefit from international efforts to preserve global biodiversity. It further guides the conservation and management of wildlife resources and makes provision for the formation of the Wildlife Authority, which is an autonomous body under the control of the Director of Wildlife.)* • Natural Resources Ordinance *(The Ordinance created the Natural Resources Board, which is charged with the responsibility of supervising the use and/or exploitation of natural resources.)* • The Tourism Act, 2008. *(Section 3(c) of the Act stipulates that 'the Act shall strive to promote eco-tourism, cultural tourism or any other forms of tourism that provides better sectoral linkages, create employment and foster sustainable development'.)*	**Coastal, fisheries and marine resources** • Fisheries Legislation (Revised 1988) • Wild Animals Protection Decree (Cap. 128) • Wild Birds Protection Decree (Cap. 129)
Planning and urban development • Town and Country Planning Ordinance, 1966 *(Cap. 378) (The Ordinance was intended to establish a land use planning scheme for designated areas. The National Land Use Planning Commission was established to advise the government on land conservation and development.)* • The Town and Country Planning Decree (Cap. 85) • National Land Use Planning Commission Act, No. 3 of 1984 • Land Act, No. 4 of 1999 • Village Land Act, No. 5 of 1999 *(The Act requires each village to identify and register all communal land and obtain the approval of all members of the village for this identification and registration (Village Assembly, section 13). Each Village Land Council is to maintain a Register of Communal Land (section 13(6)) and land cannot be allocated to individuals, families or groups for private ownership (section 12(1)(a)).)*	**Planning and urban development** Administrative Authorities Act, 1981 Local Government Act, 1986

Table 14.14: Other potentially applicable sectoral requirements *(continued)*

Tanzania Mainland	Zanzibar
Planning and urban development *(continued)* • Regional Administration Act, 1997 • Local (District and Urban) Authorities Act, No. 7 of 1982 *(Local authorities are empowered to make bylaws regarding the protection of soil, agriculture, water supplies and other natural resources. The Act contains provisions to protect human health and regulate pollution problems.)*	
Maritime zone and transport • Merchant Shipping Act, No. 21 of 2003 *(Atmospheric pollution is addressed only minimally in Tanzanian legislation. The Act prohibits the emission of dark smoke from ships for more than five minutes in any hour within the limits of a port.)* • Territorial Sea and Exclusive Economic Zone Act, No. 3 of 1989	**Maritime zone and transport** Dangerous Goods Act (Cap. 160)
Agriculture, forestry, land and water • Land (Distribution) Decree, 1966 • Land Act, No. 4 of 1999 *(Private group property is given either through granted rights in general and reserved land (Land Act, section 19) or through customary rights in village lands (Village Land Act, section 22). Provision is also made for holding land by joint occupancy or occupancy in common (Land Act, Part XIII).)* • Public Land Decree (Cap. 93) *(Rules regarding the removal of natural produce)* • Forestry Policy, 1993 *(The revised Policy continues to recognise the important role of forests in the maintenance of the environment, the provision of forestry products, and the protection of watersheds and biodiversity.)* • Forest Act, No. 14 of 2002 • Plant Protection Act, No. 13 of 1997 • National Parks Ordinance (Cap. 412) • Water Resources Management Act, 2009 *(The Act 'provides the institutional and legal framework for the sustainable management and development of water resources'. It further introduces measures to control and prevent the pollution of water resources and provides for public participation in the implementation of the National Water Policy.)* • Water Supply and Sanitation Act, 2009 *(The Act aims to enforce sustainable management, adequate operation and transparent regulation of water supply and sanitation services.)* • Water Utilization (Control and Regulation) Act, No. 42 of 1974, as amended in 1981 and 1997 *(The Act establishes temporary standards for receiving waters, as well as effluent discharge standards.)* • Urban Water Supply Act, No. 7 of 1981 *(The Act gives the National Urban Water Authority powers to monitor and control surface water and groundwater pollution and specifies when such pollution is a punishable offence.)* • Waterworks Ordinance, Chapter 281 *(The Ordinance specifies that the pollution of water supplies constitutes a punishable offence.)* • Public Health, Sewerage and Drainage Ordinance, Chapter 336. *(The Ordinance prohibits the discharge of certain substances into sewers. Violation of the Ordinance is an offence, and penalties may be imposed on offenders.)*	**Agriculture, forestry, land and water** • Forest Reserve Decree (Cap. 120) and Wood Cutting Decree (Cap. 121) • Commission of Lands and Environment Act, 1988
Mining • Mining Act, No. 14 of 2010. *(The Act 're-enacts with substantial amendments' the Mining Act, No. 5 of 1998. Amendments are particularly for provisions relating to prospecting for minerals, mining processing and dealing in minerals. It further amends the law relating to the granting, renewal and termination of mineral rights, as well as payment of royalties and mining fees.)* • Mining Act, No. 5 of 1998, and Regulations of 1999 *(The Act sets out government policy on all forms of mining and is supported by various Regulations covering claims, prospecting rights, mining rights and royalties. Mining licence applicants are required to submit programmes for environmental protection. Each industry is required to establish realistic resource recovery standards and to adhere to them. Mining plans are required to be presented before operations begin.)* • Explosives Act, No. 56 of 1963	**Mining**

Appendix 14-1

Type A projects requiring a mandatory EIA

Listed in the First Schedule of the EIA and Audit Regulations

1. Agriculture

i. Large-scale cultivation
ii. Water resources development projects
iii. Large-scale monoculture
iv. Biological pest control
v. Agricultural projects requiring the resettlement of communities
vi. Introduction of new breeds of crops
vii. Introduction of genetically modified organisms

2. Livestock and range management

i. Large-scale livestock movement
ii. Introduction of new breeds of livestock, including genetically modified breeds
iii. Introduction of new or alien foreign species
iv. Intensive livestock-rearing areas

3. Forestry

i. Timber logging and processing
ii. Introduction of new tree species and development of forest plantations
iii. Selective removal of single tree species
iv. Biological pest control
v. Afforestation and reforestation for purposes of carbon sequestration
vi. Construction of roads inside forest reserves
vii. Commercial charcoal, firewood and other forest harvest operations
viii. Establishment of commercial logging or conversion of forested land to other land uses within catchment areas

4. Fisheries

i. Medium to large-scale fisheries
ii. Artificial fisheries, e.g. aquaculture
iii. Introduction of new species into water bodies
iv. Large-scale fish farming, including prawn farming
v. Industrial fish processing and storage
vi. Introduction of genetically modified fish species and other aquatic species

5. Wildlife

i. Introduction of new species
ii. Wildlife catching and trading
iii. Establishment of hunting blocks or areas, especially involving the resettlement of communities
iv. Translocation of wildlife
v. New protected areas, especially involving the resettlement of communities
vi. Wildlife ranching and farming
vii. Zoos and sanctuaries

6. Tourism and recreational development

i. Construction of resort facilities or hotels along the shorelines of lakes, rivers, islands and the ocean
ii. Hilltop resort or hotel development
iii. Development of tourism or recreational facilities in protected and adjacent areas, on islands and in surrounding waters
iv. Hunting and capturing
v. Camping activities, walkways and trails, etc.
vi. Major construction works for sporting purposes

7. Energy

i. Production and distribution of electricity, gas, steam and geothermal energy
ii. Storage of natural gas
iii. Thermal power development, i.e. coal and nuclear
iv. Hydroelectric power
v. Development of other large-scale renewable and non-renewable sources of energy

8. Petroleum industry

i. Oil and gas fields exploration and development
ii. Construction of offshore and onshore pipelines
iii. Construction of oil and gas separation, processing, handling and storage facilities
iv. Construction of oil refineries
v. Construction or expansion of product depots for storage of petrol, gas, diesel, tar and other products within commercial, industrial or residential areas
vi. Transportation of petroleum products

9. Transport and infrastructure

i. Construction, expansion or rehabilitation of new trunk roads
ii. Construction, expansion or rehabilitation of airports and airstrips and their ancillary facilities
iii. Construction of new or expansion to existing railway lines
iv. Construction of new or expansion to existing shipyards or harbour facilities
v. Installation and expansion of communication towers

10. Food and beverage industries

i. Manufacture of vegetable and animal oils and fats
ii. Oil refinery and ginneries
iii. Manufacture of dairy products
iv. Brewing, distilling and malting
v. Fishmeal factories
vi. Slaughter houses
vii. Soft drinks
viii. Tobacco processing
ix. Canned fruits and sauces
x. Sugar factories
xi. Other agri-processing industries

11. Textile industry

i. Cotton and synthetic fibres
ii. Dye for cloth
iii. Ginneries

12. Leather industry

i. Tanneries
ii. Dressing factories
iii. Other cloth factories

13. Wood, pulp and paper industries

i. Large-scale manufacture of veneer and plywood
ii. Large-scale manufacture of fibre board and particle board
iii. Large-scale manufacture of pulp, paper, sand board cellulose mills

14. Building and civil engineering industries

i. Industrial and housing estates
ii. Major urban projects
iii. Construction and expansion or upgrading of roads, harbours, shipyards, fishing harbours, airfields and ports, railways and pipelines
iv. Developments on beach fronts

15. Chemical Industries

i. Manufacture, transportation, use, storage and disposal of pesticide and other hazardous and/or toxic chemicals
ii. Manufacture of pharmaceutical products
iii. Storage facilities for petroleum, petrochemical and other chemical products, e.g. filling stations
iv. Production of paints, varnishes, etc.
v. Soap and detergent plants
vi. Manufacture of fertilisers

16. Extractive industry

i. Extraction of petroleum
ii. Extraction and purification of natural gas
iii. Other deep drilling of boreholes and wells
iv. Mining

17. Non-metallic industries

i. Manufacture of cement, asbestos, glass, glass-fibre, glass wool and rubber, etc.
ii. Manufacture of plastic materials
iii. Lime manufacturing, tiles, ceramics

18. Metal and engineering industries

i. Manufacture and assembly of motorised and non-motorised transport facilities
ii. Body-building
iii. Boiler making and manufacture of reservoirs, tanks and other sheet containers
iv. Foundry and forging
v. Manufacture of non-ferrous products
vi. Manufacture of iron and steel
vii. Electroplating

19. Electrical and electronic industries

i. Battery manufacturing
ii. Electronic equipment manufacturing and assembly

20. Waste treatment and disposal

a) Toxic and hazardous waste
   i. Construction of incineration plants
   ii. Construction of offsite recovery plants
   iii. Construction of wastewater treatment plant (off-site)
   iv. Construction of secure landfill facilities
   v. Construction of off-site storage facilities

b) Municipal solid waste
   i. Construction of incineration plant
   ii. Construction of composting plant
   iii. Construction of recovery and recycling plant
   iv. Construction of municipal solid waste landfill facility
c) Municipal sewage
   i. Construction of wastewater treatment plant
   ii. Construction of marine outfall
   iii. Night soil collection, transportation and treatment
   iv. Construction of sewage system

21. Water supply

i. Canalisation of watercourses
ii. Diversion of normal flow of water
iii. Water transfer schemes
iv. Abstraction or utilisation of ground- and surface water for bulk supply
v. Water treatment plants

22. Land planning and development, land reclamation, housing and human settlements

i. Resettlement or relocation of people and animals, e.g. establishment of refugee camps
ii. Development or expansion of industrial estates
iii. Establishment of estates for residential or commercial purposes
iv. Major urban projects
v. Construction of hospitals with large bed capacity
vi. Land reclamation, including land under water bodies
vii. Development of residential and commercial estates on ecologically sensitive areas, including beach fronts
viii. Dredging of bars, groynes, dykes and estuaries.

Appendix 14-2

Type B projects: Small-scale activities and enterprises requiring a preliminary environmental assessment

Listed in the First Schedule of the EIA and Audit Regulations

i. Fish culture
ii. Small animal husbandry and urban livestock keeping
iii. Horticulture and floriculture
iv. Wildlife catching and trading
v. Charcoal production
vi. Bark for tanning purposes
vii. Brewing and distilleries
viii. Bird catching and trading
ix. Hunting
x. Wildlife ranching
xi. Zoos and sanctuaries
xii. Tie and dye making
xiii. Salt pans
xiv. Urban agriculture
xv. Hospitals and dispensaries, schools, community centres and social halls, playgrounds
xvi. Market places (livestock and commodities)
xvii. Blacksmiths
xviii. Garages
xix. Tile manufacturing
xx. Kaolin manufacturing
xxi. Livestock stock routes
xxii. Tobacco curing
xxiii. Sugar refineries
xxiv. Tanneries
xxv. Pulp plant
xxvi. Oil refineries and ginneries
xxvii. Artisanal and small-scale mining
xxviii. Rural roads

Appendix 14-3

Environmentally sensitive areas and ecosystems

1. **Areas prone to natural disasters**
   Geological hazards, floods, rainstorms, earthquakes, landslides, volcanic activity, etc.

2. **Wetlands**
   - Water bodies (flood plains, swamps, lakes, rivers, etc.) characterised by one or any combination of the following conditions:
   - Tapped for domestic purposes, brick making
   - Within the controlled and/or protected areas
   - Which support wildlife and fishery activities
   - Used for irrigation agriculture, livestock grazing

3. **Mangrove swamps characterised by one or any combination of the following conditions:**
   - With primary pristine and dense growth
   - Adjoining mouth of major river systems
   - Near or adjacent to traditional fishing grounds
   - Which act as natural buffers against shore erosion, strong winds and storm floods

4. **Areas susceptible to erosion such as:**
   - Hilly areas with critical slopes
   - Unprotected or bare lands

5. **Areas of importance to threatened cultural groups**

6. **Areas with rare, endangered or threatened plants and animals**

7. **Areas of unique socio-cultural history, archaeological or scientific importance, and areas with potential tourist value**

8. **Polluted areas**

9. **Areas subject to desertification and bush fires**

10. **Coastal areas and marine ecosystems**
    - Coral reef
    - Islands
    - Lagoons and estuaries
    - Continental shelves
    - Beachfronts, etc.
    - Intertidal zones
    - Marine reserves

11. **Protected areas**
    National parks, watershed reserves, forest reserves, wildlife reserves and sanctuaries, sacred areas, wildlife corridors, hot spring areas

12. **Mountainous areas, water catchment areas and recharge areas of aquifers**

13. **Areas classified as prime agricultural lands or rangelands**

14. **Green belts or public open spaces in urban areas**

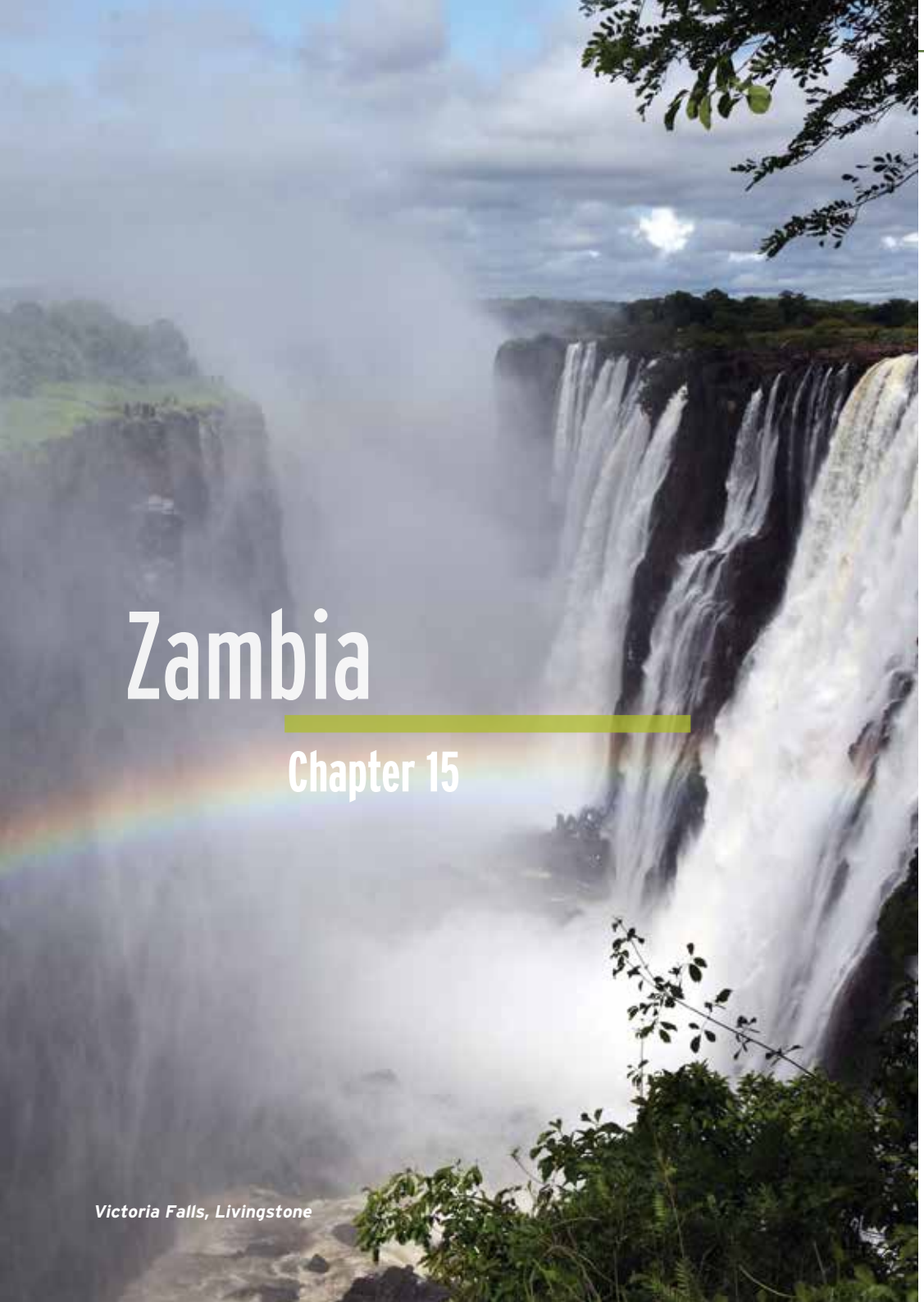
15. **Burial sites and graves**

Acronyms

EIA	environmental impact assessment
EIS	Environmental Impact Study
EMA	Environmental Management Act
EMDC	Environmental Management Divisional Standards Committee
NEAP	National Environmental Action Plan
NEMC	National Environmental Management Council

Useful contacts

Department	Ministry	Telephone	Fax	Website
Directorate of Environmental Impact Assessment	National Environment Management Council PO Box 63154 Dar es Salaam Tanzania	+255 22 277 4852 +255 741 608930	+255 22 2774901	www.nemc.or.tz
Institute of Resource Assessment	University of Dar es Salaam	+255 22 2410144	+255 22 2410393	www.ira.udsm.ac.tz



Zambia

Chapter 15

Victoria Falls, Livingstone

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Zambia

15.1 Constitutional requirements for environmental protection in Zambia

The Zambian Constitution (as amended by Act No. 18 of 1996) does not specifically state that citizens have the right to a clean and healthy environment. However, it pledges:

> *... to ourselves that we shall ensure that the State shall respect the rights and dignity of the human family, uphold the laws of the State and conduct the affairs of the State in such a manner as to preserve, develop, and utilise its resources for this and future generations.*[1]

15.2 Institutional and administrative structure for environmental impact assessment in Zambia

15.2.1 Ministry of Tourism, Environment and Natural Resources

The Ministry of Tourism, Environment and Natural Resources was created in January 2002 through the merger of the former Ministry of Tourism with the Ministry of Environment and Natural Resources. This merger arose from the need to integrate tourism, the environment and natural resources considerations in Zambia's sectoral and socio-economic planning processes. The Ministry is charged with providing guidance in the tourism, environmental and natural resources sectors of the economy of Zambia through five core departments, each headed by a Director: Tourism, Environment and Natural Resources Management, Forestry, Planning and Information, and Human Resources and Administration. The latter also coordinates the activities of the Zambia Forestry College in Kitwe, Copperbelt Province.

The main focus of the Ministry is to ensure the provision of an appropriate legislative and policy framework that guides the management and development of the environment. The Ministry's mission is:

> *To provide a policy framework for the management and development of tourism, heritage and natural resources and the environment in order to contribute to sustainable socio-economic development for the benefit of present and future generations.*

15.2.2 Zambian Environmental Management Agency

Originally, six statutory bodies were set up under the Ministry. These were the following:

1 Republic of Zambia, 1996. *Constitution of the Republic of Zambia*. Lusaka: Government of Zambia.

- Zambia Wildlife Authority;
- Environmental Council of Zambia;
- Zambia National Tourist Board;
- National Heritage Conservation Commission;
- National Museum Board; and
- Hotel and Tourism Training Institute Trust.

The Environmental Council was renamed the Zambian Environmental Management Agency (ZEMA) in terms of the new Environmental Management Act (EMA), No. 12 of 2011.

The Board of ZEMA comprises members drawn from a wide range of ministries, including the Ministry of Health and other academic, business and non-governmental organisations.

By administering the EMA, ZEMA is the major environmental institution in Zambia and the main lead agency on matters pertaining to environmental impact assessment (EIA). It is empowered by the EMA to identify projects, plans and policies for which EIA is necessary. The former Environmental Council of Zambia was made responsible for facilitating the EIA process and for quality control of environmental assessment statements through Statutory Instrument No. 28 of 1997 – the Regulations made in terms of the now-repealed Environmental Pollution Prevention and Control Act (EPPCA). It is assumed that any new Regulations made under the EMA will give ZEMA similar responsibilities (see Figure 15.1).

The functions of ZEMA are set out in section 9 of the Act, which states that the Agency's mandate is to 'do all things as are necessary to ensure the sustainable management of natural resources and protection of the environment and the prevention and control of pollution'. ZEMA's functions include:

- Advising the Minister on policy;
- Coordinating the implementation of environmental management activities in other ministries;
- Developing and enforcing measures to prevent and control pollution;
- Developing guidelines and standards relating to environmental quality;
- Promoting research and studies, including the impact of climate change on humans and the environment;
- Integrating environmental concerns into national planning;
- Reviewing EIAs and strategic environmental assessments;
- Collaborating with other government agencies, authorities and institutions to control pollution and protect the environment;
- Advising stakeholders on projects, programmes, plans and policies for which environmental assessments are necessary;

- Publicising information on any aspect of environmental management and pollution control;
- Conducting studies and making recommendations on standards related to the improvement and maintenance of sound ecological systems;
- Monitoring trends in the use of natural resources and their impact on the environment; and
- Requesting information on the quality, quantity and management methods of natural resources and environmental conditions in Zambia.

The services provided by ZEMA in relation to EIA studies include:

- Assisting the developer in determining the scope of EIA studies;
- Reviewing Project Briefs, Terms of Reference and Environmental Impact Statements (EIS) and decision-making;
- Disclosing the EIS to the public through the media;
- Holding public meetings to discuss the EIS;
- Conducting verification surveys of the affected environment;
- Monitoring the project once implemented;
- Conducting compliance audits of the project between 12 and 36 months after implementation; and
- Generally administering the EIA Regulations.

15.2.3 Other line ministries

Environmental issues cut across a variety of sectors and a number of government institutions and agencies outside of ZEMA are involved in environmental management. Some of the sectoral agencies and planning authorities that may have to be contacted include the following:[2]

- Ministry of Lands;
- Department of Forestry in the Ministry of Tourism, Environment and Natural Resources;
- Ministry of Energy and Water Development;
- Zambian Electricity Supply Company Ltd (ZESCO);
- Ministry of Mines and Mineral Development;
- National Heritage Conservation Commission (heritage sites);
- Zambia Wildlife Authority;
- Fisheries Department, Ministry of Agriculture and Cooperatives;
- Zambezi River Authority;
- Ministry of Health;
- Radiation Protection Board; and
- Ministry of Local Government and Housing.

2 Chapman, K & Walmsley, B, 2003. Country Chapter: Zambia. In: SAIEA (Southern African Institute for Environmental Assessment), *EIA in southern Africa*. Windhoek: SAIEA, pp. 267–95.

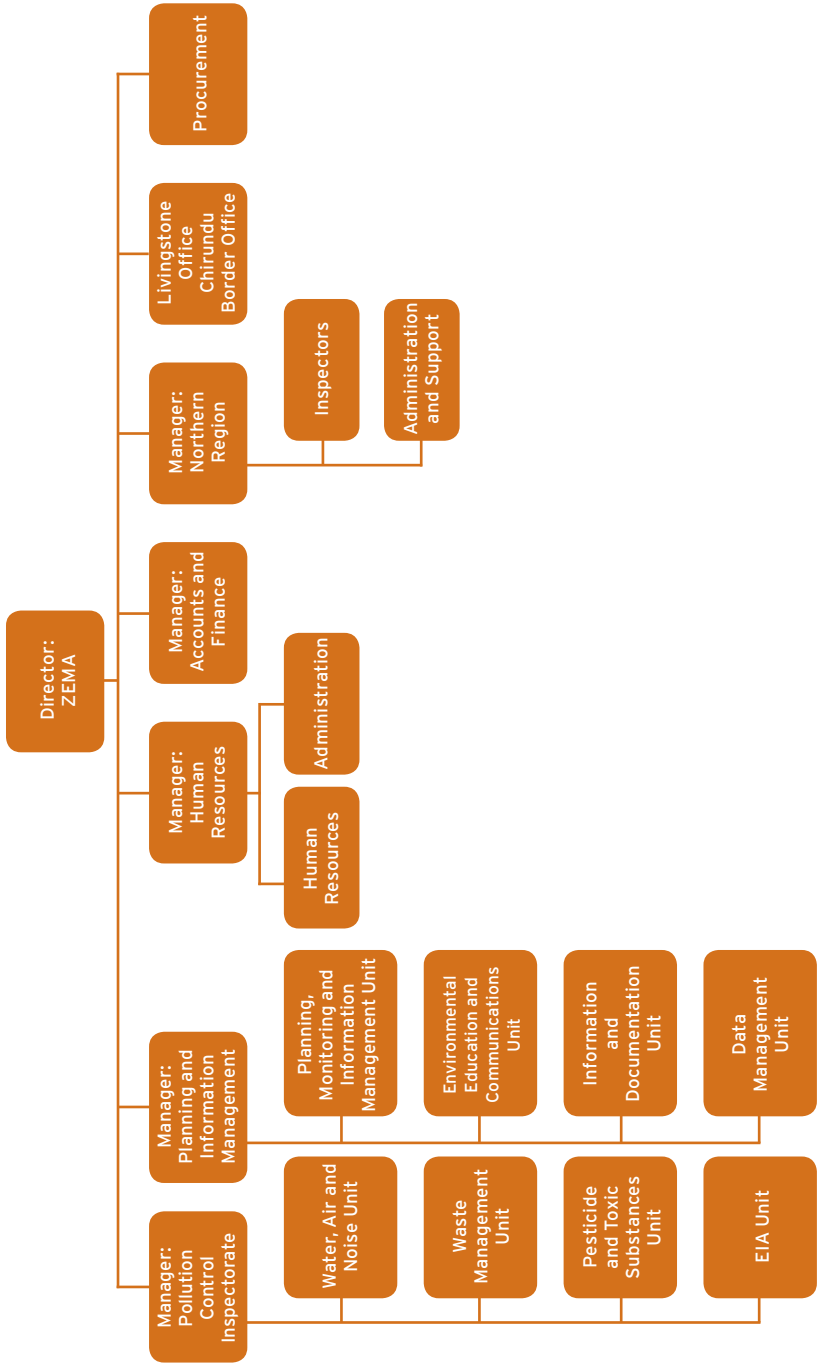

Figure 15.1: Organisational structure of the Zambian Environmental Management Agency

Some of these agencies have their own environmental units, such as the Environmental and Social Management Unit in the Road Development Agency, the Director of Mine Safety in the Ministry of Mines and Mineral Development, and the Environmental and Social Affairs Unit in ZESCO. These are known as authorising agencies. Typically, Project Briefs and EISs have to be submitted to these authorising agencies first. They then submit the EIA documents to ZEMA with their comments attached (see Figure 15.2).

A new requirement in the EMA is for all ministries to prepare an Environmental Management Strategy, which has to be submitted to ZEMA for approval. Once approved, the Strategy must be published in the Gazette and implemented. The Act further provides for ZEMA to review the effectiveness of each ministry's Environmental Management Strategy every ten years.

15.3 Policy and legal framework for EIA

15.3.1 Environmental policy

The first attempt to establish a policy framework document, the National Conservation Strategy, was undertaken by the former Ministry of Water, Lands and Natural Resources in 1985.[3] The aim was to:

- Set out an overview of the status of environmental resources in Zambia.
- Identify the main environmental problems.
- Make recommendations on policies, programmes and actions to address these problems.

Among other things, the National Conservation Strategy proposed draft environmental legislation and, as a result, the Environmental Protection and Pollution Control Act, No. 12 of 1990 (Chapter 204), was enacted in 1990. In 1992, the Environmental Council of Zambia was established.

Following on the United Nations Conference on Environment and Development in Rio de Janeiro in June 1992, Zambia sought assistance from the United Nations Development Programme (UNDP), the World Bank and the Norwegian Agency for Development Cooperation (NORAD) to update the Zambian National Conservation Strategy by preparing a National Environmental Action Plan.[4] The Plan was completed and adopted in 1994.[5]

In June 2009, the President of Zambia launched the new National Policy on the Environment, replacing the outdated National Environmental Action Plan of 1994. The Policy's main aim is to promote sustainable environmental protection. It provides a framework for the management of the environment and natural resources in order to protect future generations. The Policy hopes to address some of the main challenges facing Zambia, such as: climate change, deforestation, land degradation, loss of biological diversity, wildlife depletion and environmental pollution. According to the EMA (section 21), this Policy needs to be updated every ten years.

15.3.2 Environmental Protection and Pollution Control Act

The EPCCA (Cap. 204) was enacted in 1990 (Act No. 12 of 1990) and amended by the Environmental Protection and Pollution Control Amendment Act in 1999 (Act No. 12 of 1999). The Act has recently been repealed and replaced by the *EMA of 2011.*

15.3.3 Environmental Management Act

The Environmental Management Act, No. 12 of 2011, states the principles upon which it is founded as follows:

- The environment is the common heritage of both present and future generations.
- Adverse effects shall be prevented and minimised through long-term integrated planning and the coordination, integration and cooperation of efforts that consider the entire environment as a whole entity.
- The precautionary principle.
- The polluter pays principle.
- Equitable access to environmental resources shall be promoted and the functional integrity of ecosystems shall be taken into account to ensure the sustainability of the ecosystems and prevent adverse effects.
- People shall be involved in the development of policies, plans and programmes for environmental management.
- The citizen shall have access to environmental information to enable him/her to make informed personal choices that encourage improved performance by industry and the government.
- The generation of waste should be minimised, wherever practical, and waste should, in order of priority, be reused, recycled, recovered and disposed of safely in a manner that avoids adverse effects.
- The environment is vital to people's livelihoods and should be used sustainably in order to achieve poverty reduction and socio-economic development.
- Non-renewable natural resources shall be used prudently, taking into account the needs of the present and future generations.
- Renewable natural resources shall be used in a manner that is sustainable and does not prejudice their viability and integrity.

3 Republic of Zambia, 1985. *National Conservation Strategy.* Lusaka: Ministry of Environment and Natural Resources.
4 Republic of Zambia, 1994. *The National Environmental Action Plan.* Lusaka: Ministry of Environment and Natural Resources.
5 Republic of Zambia, 1994.

- Community participation and involvement in natural resource management and the sharing of benefits arising from the use of the resources shall be promoted and facilitated.

The term 'environment' is defined in the Act as 'natural or manmade surroundings at any place, comprising air, water, land, natural resources, animals, buildings and other constructions (sic)'. This definition is rather ambiguous as to whether the 'manmade surroundings' referred to are merely 'buildings and other constructions (sic)' or whether they include the social environment of people, economics, health and culture. Given the heavy bias in the EMA towards pollution prevention and control, with little reference to the social milieu, the tendency is to interpret the above definition quite narrowly.

However, the mission statement for the Ministry specifically refers to 'sustainable socio-economic development' and the EMA reiterates the constitutional requirement whereby every person living in Zambia has the right to a clean and healthy environment. Thus, it is unclear how the term 'environment', as used in the Act, is to be interpreted.

Strategic environmental assessment

Section 23 of the Act states that a strategic environmental assessment must be conducted for any draft policy, programme or plan that could have an adverse effect on environmental management or the sustainable management and utilisation of natural resources. Section 23(3) specifies the contents of such an assessment. Where a strategic environmental assessment recommends amendments to a policy, plan or programme, ZEMA will ensure that the amendments have been brought about before approving such a document.

Transboundary impacts

Section 44 of the Act provides a framework for the control and restriction of any contaminants that may have a regional or global effect. Section 85 of the Act relates to transboundary environmental programmes and transboundary impacts. Section 85(1) specifies that the Minister, in consultation with other sectors, must enter into dialogue with the relevant authorities of neighbouring countries where transboundary impacts may occur.

15.3.4 Regulations

In terms of sections 6 and 96 of the 1990 EPPCA, the EIA process was formalised in the Environmental Protection and Pollution Control (Environmental Impact Assessment) Regulations, which were promulgated through Statutory Instrument No. 28 of 1997. Although the 2011 EMA repeals the 1990 EPPCA, the Regulations are still being enforced.[6] However, section 30 of the EMA makes provision for the Minister, on the advice of ZEMA, to promulgate new Regulations relating to the administration and enforcement of both strategic environmental assessments and EIAs.

The other relevant environmental Regulations in terms of the EPPCA, which are also still in force, are:

- The Water Pollution Control (Effluent and Waste Water) Regulations, 1993;
- The Air Pollution Control (Licensing and Emission Standards) Regulations, 1996;
- The Waste Management (Transporters of Waste/Operation of Waste Disposal Sites) Regulations, 1993;
- The Hazardous Waste Management Regulations, 2001;
- The Pesticides and Toxic Substances Regulations, 1994; and
- The Ozone-Depleting Substances Regulations, 2000.

15.3.5 Permits and licences

Before a developer can commence with an activity listed in the schedules attached to the EIA Regulations, s/he must obtain an *Environmental Authorisation* from ZEMA. In addition, various permits are needed for specific aspects of development planning and EIA (see Table 15.1). Permits and licences are issued in accordance with the various Regulations listed above.

Table 15.1: Permits in the context of development planning and EIA

Regulation, Act or Bylaw	Permit or licence	Requirements	Implementing authority
Air Pollution Control (Licensing and Emission Standards) Regulations, 1996	Air Pollution Monitoring Permits	Quarterly reports must be submitted to ZEMA.	Air and Noise Pollution Directorate, ZEMA
Water Pollution Control (Effluent and Wastewater) Regulations, 1993	Water Effluent Discharge Licences	Biannual reports must be submitted, which detail the quantity and quality of effluent discharged.	Water (Effluent Discharge) Pollution Directorate, ZEMA
Water Supply and Sanitation Act, No. 28 of 1997	Water Abstraction Licences	The licence must be renewed annually.	Water Rights Investigators from the Water Board, Ministry of Energy and Water Development; the requirement for licences is provided for in the Water Act (Chapter 312), 1949.

6 Personal communication F Muyano.

Table 15.1: Permits in the context of development planning and EIA *(continued)*

Regulation, Act or Bylaw	Permit or licence	Requirements	Implementing authority
Pesticides and Toxic Substances Regulations, 1994	Pesticides and Toxic Substances Licences	An application for a licence must be submitted before importing any pesticide or toxic substance listed in the Pesticides and Toxic Substances Regulations.	Pesticides and Toxic Substances Directorate, ZEMA
Waste Management (Transporters of Waste/Operation of Waste Disposal Sites) Regulations, 1993 Hazardous Waste Management Regulations, 2001	Waste Management Licences	An application for a licence needs to be submitted before the transport of wastes or the operation of a waste disposal plant, and for the generation and storage of hazardous waste.	ZEMA
Local authority bylaws	Building Permits	Currently, ZEMA has no authority in urban areas. Thus, although EIAs should precede any such authorisations, Building Permits are being issued without referring developments to ZEMA.	Ministry of Local Government and Housing

15.3.6 Offences and penalties

Part IX of the EIA Regulations specifies the penalties for non-compliance with any of the provisions of the Regulations, including:

- Failure to prepare and submit a Project Brief;
- Failure to prepare and submit an EIS;
- Making false statements in any environmental documentation; and
- Non-compliance with any of the conditions contained in the Authorisation Permit.

The remedial costs associated with the repair of any environmental damage caused through the violation of any of the provisions of the Regulations or through non-compliance with the Authorisation Permit must be borne by the person responsible for such violation (Regulation 35).

15.3.7 Fees

Regulation 36 states that the developer will be charged a fee to cover the costs of reviewing all relevant EIA documentation and reports. The fees are set out in the Fifth Schedule to the Regulations and are revised from time to time. The fees as of the last review in 2000 are summarised in Table 15.2.

Table 15.2: EIA Fees

Item	Fee
Review of Project Briefs	2 778 fee units[7]
Review of EIS (including post-implementation audits and monitoring) is based on project value:[8]	
<US$100 000	US$1 000
US$100 000 – 500 000	US$10 000
US$500 000 – 1 000 000	US$25 000
US$1 000 000 – 10 000 000	US$50 000
US$10 000 000 – 50 000 000	US$100 000
>US$50 000 000	US$150 000
Search fees for access to EISs	278 fee units

15.3.8 Guidelines

ZEMA is developing sector guidelines for reviewing EIA applications. Five sets of guidelines exist in draft format for the following sectors: energy, fisheries, forestry, social impact assessment and tourism. Guidelines on mining, although complete, still require improvement.

Once the various sector guidelines have been finalised, ZEMA will use them for reviewing EIAs, as well as for developers and consultants undertaking an EIA in one of the sectors concerned. Some of the authorising agencies have been proactive in developing their own guidelines. For example, the Zambia Wildlife Authority has its own EIA guidelines to review developments in protected areas, while the National Heritage Conservation Commission has guidelines for development near heritage sites. The Road Development Agency has recently completed a *Procedures manual for environmental and social management in the roads sector,*[9] which includes guidance on EIAs for road development.

15.3.9 Environmental standards

Emission standards have been established for water quality, ambient air quality and air emissions. The latter, however, are considered too stringent. The authorities are also developing noise standards, and Regulations are in draft.[10]

Table 15.3 presents information on air emission requirements in Zambia and Table 15.4 provides information on effluent standards for water. There are no Zambian standards yet for noise and solid waste, and the World Health Organization, World Bank or donor country standards apply.

7 1 Zambian kwacha = 180 fee units
8 Project value means the total capital cost of the project.
9 Ministry of Works and Supply, 2007. *Procedures manual for environmental and social management in the roads sector in Zambia.* Road Development Agency. In preparation.
10 Personal communication F Muyano and E Zulu.

Table 15.3: Air emission requirements

Pollutant	Concentration (as mg/Nm³)
Sulphur dioxide	1 000
Arsenic	0.5
Cadmium	0.05
Copper	1.0
Lead	0.2
Mercury	0.05
Particulates: Smelter	50
Particulates: Other sources	50

The Air Pollution (Licensing and Emission Standards) Regulations, 1996.

Table 15.4: Effluent discharge requirements

Pollutant	Concentration (as mg/l)
pH	6 – 9 units
Biological oxygen demand	50
Chemical oxygen demand	-
Oil and grease	20
Total suspended solids	100
Dissolved solids	3 000
Heavy metals – total	-
Arsenic	0.5
Cadmium	0.5
Chrome, total	0.1
Copper, total	1.5
Copper, dissolved	-
Iron, total	2
Iron, dissolved	-
Lead	0.5
Manganese	1
Mercury	0.002
Nickel	0.5
Selenium	0.02
Zinc	10
Chlorine, total residual	-
Sulphide	-
Temperature, at point of entry	40°C
Temperature, at edge of mixing zone	-

The Water Pollution Control (Effluent and Waste Water) Regulations, 1993.

15.3.10 Certification of environmental consultants

There is no formal registration or certification system for environmental assessment practitioners in Zambia. However, the names and qualifications of the proposed EIA team must be included with the Terms of Reference, which has to be submitted to the ZEMA for approval of, inter alia, the project team (Regulation 9(1)). In addition, the final EIA report has to be signed by everyone who has been involved in its preparation (Regulation 12). There is no requirement in law for environmental consultants to be independent of the proponent.

15.4 EIA procedural framework in Zambia

The EIA process to be followed is clearly set out in the EIA Regulations of 1997. This process is shown schematically in Figure 15.2 and is described in the following subsections.

15.4.1 Screening

The first step in the EIA process is to determine whether the project is listed in the First or Second Schedules attached to the EIA Regulations of 1997. This will determine whether the developer has to undertake a Project Brief or a full EIA.

In terms of Regulation 3(2), a *Project Brief i*s required for the following:

a) Any project set out in the First Schedule (see Appendix 15-1), whether or not the development is part of a previously approved project;
b) Any alterations or extensions of any existing project set out in the First Schedule; or
c) Any project not specified in the First Schedule, but for which ZEMA determines a Project Brief should be prepared.

If ZEMA determines that the project is likely to have a significant impact on the environment, it will require an EIS to be prepared in accordance with the EIA Regulations (Regulation 7(1)). Regulation 7(2) sets out the circumstances under which an EIS is required:

a) Any project specified in the Second Schedule (see Appendix 15-2), regardless of whether it is part of a previously approved larger project;
b) Any alterations or extensions of any existing project specified in the Second Schedule; or

c) Any project not specified in the Second Schedule, but for which ZEMA determines an EIS should be prepared.

If the proposed project is not listed on either Schedule, then the developer is not required to complete a Project Brief or EIS.

15.4.2 Project Brief

A Project Brief is a report by the developer that includes preliminary predictions of the possible impacts of a proposed project on the environment. It constitutes the first stage in the EIA process.

Once a developer has determined that s/he needs to prepare a Project Brief, s/he must conduct such studies that will enable him/her or his/her consultant to compile a document that states the following in a concise manner (Regulation 4 of the EIA Regulations, 1997):

a) The description of the environment at the project site;
b) The objectives and nature of the project and reasonable alternatives;
c) The main activities that will be undertaken during site preparation, construction and after the development is operational;
d) The raw and other materials that the project will use;
e) The products and by-products, including solid, liquid and gaseous waste generation;
f) The noise level, heat and radioactive emissions from normal and emergency operations;
g) The expected socio-economic impacts of the project and the number of people that the project will resettle or employ, directly, during construction and operation;
h) The expected environmental impact of the project, considering the provisions of paragraphs (c) to (g);
i) The expected effects on biodiversity, natural lands and geographical resources, and the area of land and water that may be affected through time and space; and
j) A description of mitigation measures for adverse impacts and any monitoring programmes to be implemented.

Regulation 5 of the EIA Regulations relates to the submission of the Project Brief to ZEMA:

1) A developer shall submit six copies of the Project Brief to ZEMA.
2) If ZEMA considers the Project Brief to be complete, it will transmit the Project Brief to the authorising agency for comments within seven days of receiving it (see Table 15.5).
3) The authorising agency must make comments and transmit them to ZEMA within 30 days of receiving the Project Brief.
4) Where the agency fails to make comments or transmit the Project Brief to ZEMA within the period specified, ZEMA shall proceed to consider the Project Brief regardless.

Regulation 6 of the EIA Regulations relates to the consideration of the Project Brief and ZEMA's decision:

1) ZEMA shall consider the Project Brief and the comments received.
2) If ZEMA is satisfied that the project will have no significant impact on the environment, or that the Project Brief discloses sufficient mitigation measures to ensure the acceptability of the anticipated impacts, it will, within *40* days of receiving the Project Brief from the developer, issue a decision letter, with conditions as appropriate, to the authorising agency (see Figure 15.2).

However, if ZEMA determines that a project is likely to have a significant impact on the environment, it will inform the developer within 40 days of receiving the Project Brief that an EIS must be prepared in accordance with the EIA Regulations of 1997 (see Figure 15.2).

Table 15.5: Review times for a Project Brief

Step	Action	No. of days[11]	Comment
1	Developer submits Project Brief to ZEMA		
2	ZEMA sends to authorising agency for comment	7	
3	Authorising agency sends comments to ZEMA	30	
4	ZEMA informs developer of decision	40	From date of original submission (step 1)
	Total review time for project brief	**40**	

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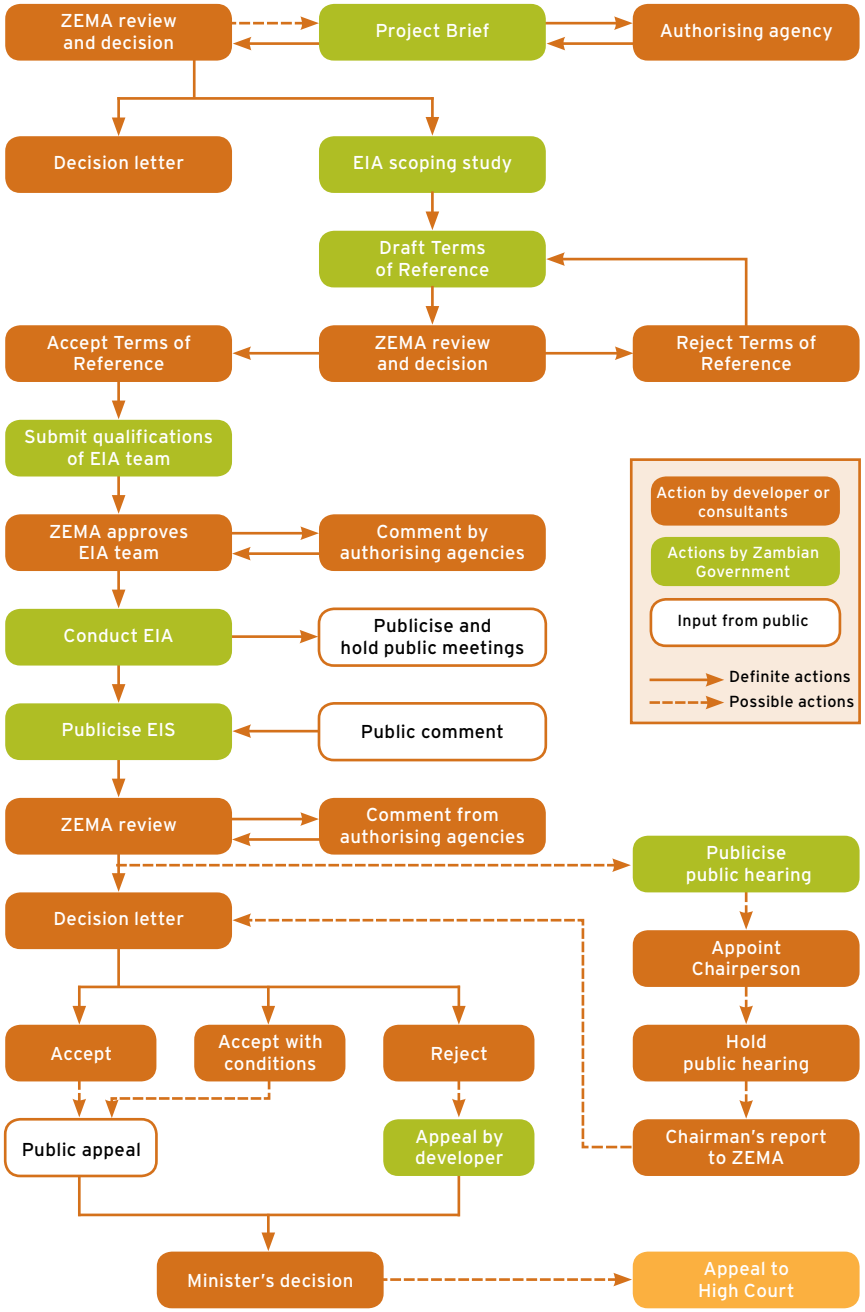
Figure 15.2: EIA process in Zambia



15.4.3 Terms of Reference for an Environmental Impact Statement

If the project is listed on the Second Schedule (see Appendix 15-2), an EIA is required. The first step of the EIA process is to develop the Terms of Reference for the study. The requirements for developing a Terms of Reference are set out in Regulation 8 of the EIA Regulations, as follows:

1) An EIS shall be prepared and paid for by the developer in accordance with *Terms of Reference* prepared in consultation with ZEMA.
2) To ensure that public views are taken into account during the preparation of the Terms of Reference, the developer shall organise a public consultation process, involving government agencies, local authorities, non-governmental and community-based organisations, and interested and affected parties, to help determine the scope of the work to be done in the conduct of the EIA and in preparation of the EIS.
3) The developer shall prepare draft Terms of Reference, taking into account issues contained in the Third Schedule (see Appendix 15-3) and the results of the consultations undertaken under sub-regulation (2), and submit these to ZEMA for approval.
4) On receipt of the draft Terms of Reference, ZEMA shall determine, within a period of five days, whether these are acceptable. If the Terms of Reference are unacceptable, the developer shall, with the assistance of ZEMA, prepare the final Terms of Reference.
5) The developer shall not begin preparing the EIS until ZEMA has approved the Terms of Reference.
6) The Terms of Reference shall include a direction that those responsible for preparing the EIS must provide all the information in the report as specified in Regulation 11 (see section 15.4.4), together with such other matters as are deemed necessary by ZEMA.

15.4.4 Public consultation process

In Zambian law, public consultation is not formally required at the Project Brief stage of the process. However, for larger and/or contentious projects, it is advisable to consult with the interested and affected parties at the earliest possible stage of the process – during the Project Brief phase.

The EIA Regulations require public input to the Terms of Reference (see section 15.4.3 above) and during the preparation of the EIS, as set out in Regulation 10, as follows:

1) The developer shall, before submitting the EIS to ZEMA, take all measures necessary to seek the views of the people in the communities that will be affected by the project.
2) In seeking the views of the community in accordance with sub-regulation (1), the developer shall:

a) Publicise the intended project, its effects and benefits in the mass media, in a language understood by the community, for a period not less than 15 days and subsequently at regular intervals throughout the process.
b) After the 15 days, hold meetings with the affected communities to present information on the project and to obtain the views of those consulted.

The EIS must include minutes of all meetings held, a list of registered interested and affected parties, and all the main issues raised. Of primary importance is to demonstrate where each issue has been addressed in the EIS.

15.4.5 Environmental Impact Statement

Several well-defined steps need to be followed in preparing an EIS. These are set out in the Fourth Schedule of the Regulations[12] and are summarised below.

Step 1: Appoint an environmental team and specialists

Once ZEMA has approved the Terms of Reference for the EIS, the developer should submit the names and qualifications of the members of the environmental team, including all the specialists, to ZEMA for approval. If ZEMA rejects any names, it must provide a reason and request the developer to submit another name within a specified timeframe (Regulation 9(3)). Preference should be given to experts with specific knowledge of the type of project being proposed and local or similar conditions. It is an unstated rule that suitable Zambian nationals are to be included in EIA consultant teams. Many donor organisations enforce this by specifying that, should an expatriate consultant be awarded a local project, a Zambian national is to accompany that consultant throughout the job. The environmental team should also be independent of the developer: team members should not have any financial or other interest in the project, the developer's company or associated companies.

On large-scale projects, those that may be contentious, and/or those that may be planned in sensitive areas, it is advisable to appoint an external, independent reviewer at the outset of the process.

Step 2: Scoping

The aims of scoping are to:

- Review all applicable laws, policies and planning documents that may relate to the type of project and/or the area in which it is to be located. A list of potentially applicable Acts, Regulations and policies is presented in Table 15.7.
- Review all international obligations that may be affected by the proposed development, such as the Ramsar Convention or the Convention on Biological Diversity. Zambia's international obligations are summarised in Table 1.5 in Chapter 1 of this Handbook.
- Identify the relevant environmental standards to be applied in the design of the project (refer to Tables 15.3 and 15.4).
- Identify all possible alternatives. These may relate to route, site, layout, design and technology, for example.
- Conduct an alternatives assessment to determine the preferred environmental options.
- Identify the main impacts associated with the preferred option(s) and determine, in consultation with ZEMA and the developer, which specialist studies need to be undertaken.

Step 3: Baseline studies and impact assessment

Once the main issues have been identified during scoping, the environmental consulting team will undertake all the required baseline studies, including specialist studies where necessary, according to the approved Terms of Reference. At the same time, the consultants must collate all relevant project information, so that the impacts of each activity can be assessed and ranked in terms of the following:

- Where changes to the environment as a result of the activity can be quantified, these must be described.
- In cases where the predicted changes cannot be expressed quantitatively, the qualitative changes to the environment must be described. Included in this category is the notion of the social acceptability of a project.

For each impact, the consultants must express the following:

- The magnitude of the impact, that is, the size and geographical extent;
- The duration of the impact, whether one-off, short-term or long-term, for example;
- The probability of occurrence;
- The extent to which the impact can be mitigated or not;
- Whether the impact is reversible;
- The confidence in the prediction; and
- The environmental and social significance of the impact, taking into account all of the above.

Where more than one alternative has been considered in the EIA, each alternative should be assessed according to the criteria listed above. The alternatives can then be compared on the basis of economic, socio-cultural and environmental gains and losses. The alternatives should then be ranked, and the EIS report should make recommendations based on sound social, economic and environmental analysis.

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Step 4: Identification of mitigation measures

One of the main aims of the EIA is to eliminate as many negative impacts as possible through an interactive process between the developer and ZEMA. However, there will always be some residual impacts that need to be managed. This can be done through the inclusion of, for example, pollution control equipment; noise control measures; solid waste minimisation through reclamation, recycling and reuse; erosion control works; and rehabilitation and revegetation programmes.

The costs of the recommended mitigation measures must be calculated and included in the project's overall financial model.

Step 5: Environmental Impact Statement

Regulation 11 sets out the minimum contents of an EIS; however, the consultants should ensure that they include all the requirements of the approved Terms of Reference in the EIS report. The basic contents of the EIS should include the following:

a) A description of the project and all reasonable alternatives, including all associated activities required to support the proposed project;
b) A description of the proposed site and/or route, together with reasons for rejecting alternative sites and/or routes;
c) A brief description of the site and/or route and the surrounding environment, including any information necessary to identify and assess the environmental effects of the project;
d) A description of the raw material inputs into the project and their potential environmental effects;
e) A description of the technology and processes that will be used;
f) A description of the products and by-products of the project;
g) The environmental effects of the project and reasonable alternatives, including the direct, indirect, cumulative, short-term and long-term effects;
h) The socio-economic impacts of the project, such as the resettlement of affected people.
i) An impact management plan, containing a description of measures proposed for preventing, minimising or compensating for any adverse impact and enhancing beneficial effects, and measures to monitor effluent streams or important environmental features that may be affected by the project; and
j) An indication of whether the environment of any neighbouring state is likely to be affected.

The EIS must also contain an executive summary, stating the main findings and recommendations. Every individual involved in its preparation must sign the EIS.

The EIS should also contain the specialist studies as appendices, as well as all the relevant documentation relating to the public consultation programme.

The developer must submit *12* copies of the EIS to ZEMA (Regulation 14(1)).

15.4.6 Review process

Once the developer has submitted the EIS to ZEMA, the Director will enter the EIS onto an EIS Register, and the following process will be followed, as prescribed in Regulations 15–25 and shown schematically in Figure 15.2. The review process times are shown in Table 15.6.

15. 1) ZEMA shall, within *seven* days of receipt of the environmental impact statement, transmit a single copy of the statement to the authorising agency for comments, e.g. the Road Development Agency or the Director of Mines Safety (see section 15.2.2).
    2) The authorising agency shall, within *thirty* days of receiving the EIS, make comments and transmit them to ZEMA.
    3) An authorising agency may, in considering the EIS under this Regulation, carry out such other procedures as deemed appropriate.

16. 1) ZEMA shall:
        a) distribute copies of the EIS to relevant ministries, local government units, parastatals, non-governmental and community-based organisations, and interested and affected parties;
        b) place copies of the EIS in public buildings in the vicinity of the site of the proposed project;
        c) place a notification in at least two national newspapers three times per week for two consecutive weeks and broadcast a notification on national radio, detailing the place and times where copies of the EIS are available for inspection and the procedure for submitting comments.
    2) ZEMA may organise, or cause to be organised, public meetings in the locality of the proposed project.
    3) Any person wishing to make a comment on the EIS must send comments to ZEMA, within *twenty* days from the date of the last notification issued in accordance with paragraph (c) of sub-regulation (1).[13]
    4) ZEMA may extend the period for receipt of written comments up to a maximum of fifteen days if it considers that:
        a) many contentious issues have arisen, indicating the sensitive nature of the project; or
        b) the remoteness of the project location causes logistical problems for the consultation process.

13 The 20-day period is incorrect, and ZEMA is addressing this anomaly as part of the legal review process.

17. 1) ZEMA shall consider the EIS and all the comments it has received under Regulations 15 and 16, in order to determine whether to issue a decision letter in accordance with Regulation 21 (see below) or to hold a public hearing in accordance with sub-regulation 17(2).
    2) ZEMA shall hold a public hearing on the EIS if:
        a) as a result of the comments made by the interested and affected parties, it is of the opinion that a public hearing will enable it to make a fair and just decision; or
        b) it considers it necessary for the protection of the environment.

18. 1) Whenever a public hearing is to be conducted under these Regulations:
        a) notice thereof shall be published three times a week for two consecutive weeks in the national papers *at least fifteen days prior* to the public hearing; and all expenses of the notices shall be incurred by the project proponent;
        b) all documents shall, from the end of the period of the public review until the end of the public hearing, remain available for public inspection accompanied by all written comments at the location specified under Regulation 16;
        c) such hearing shall begin *not later than twenty-five days* after the last public notification, provided that if ZEMA determines that the number and complexity of the issues to be considered at a hearing require additional preparation time on the part of those wishing to make a presentation to the hearing, it can extend this period up to a maximum of ten days;
        d) ZEMA shall, where it feels necessary and appropriate, request any relevant persons to be present at the public hearing to make comments or solicit in writing comments from other government agencies that have expertise or regulatory power over the proposed project, as well as the authorising agency.
    2) ZEMA shall appoint a person who, in its opinion, is suitably qualified to preside over the public hearing and who shall serve on such terms and conditions as may be agreed between ZEMA and the person so appointed.
    3) The public hearing shall be conducted at a venue that shall be convenient and accessible to those persons who are likely to be specifically affected by the project.
    4) On the conclusion of the public hearing, the person presiding at the hearing shall, within fifteen days from the termination of the public hearing, make a report of his/her findings to ZEMA.

19. 1) Any person may attend a public hearing, either in person or through a representative, and make presentations, provided that the person presiding at the public hearing shall have the right to disallow frivolous and vexatious presentations, which lead to the abuse of the process.
    2) ZEMA shall determine the procedure for making presentations at a public hearing.

20. 1) In making a decision regarding an EIS under these Regulations, ZEMA shall take into account:
        a) the impact predictions made in the EIS;
        b) the comments made by the interested and affected parties;
        c) the report of the person presiding at the public hearing, where applicable;
        d) other factors that it considers crucial in the particular circumstances of the project.
    2) ZEMA shall make its decision regarding the granting of an Environmental Authorisation in accordance with Regulation 21 (see below), within thirty days after receipt of a report from a public hearing or twenty days from the date on which the EIS was originally submitted to ZEMA.

21. 1) ZEMA shall take into account the whole review process and issue a decision letter stating:
        a) that the project is approved and an Environmental Authorisation will be granted; or
        b) the project is rejected; or
        c) the project is approved subject to the developer meeting the stipulated conditions.

22. 1) In issuing its decision letter ZEMA shall, as the case may be:
        a) provide reasons for any rejections; or
        b) specify the conditions to be attached, as an Annex to any authorisation licence, permit or permission issued to the developer based on the impact management plan provided in the EIS. The conditions must also include a work programme that provides a schedule for implementation of the conditions.
    2) An Annex containing any specified conditions must be signed by the Director.

23. The decision of ZEMA must be communicated to all parties concerned within *fifteen* days of the decision.

24. 1) If any party is aggrieved by the decision, that party may, in writing, appeal to the Minister against the decision within a period of ten days after receipt of the decision letter from ZEMA.
    2) The Minister shall render his decision within *fourteen* days of receiving an appeal.

3) If the aggrieved party is not content with a decision of the Minister, he may appeal to the High Court.

25. An authorisation licence, permit or permission that has been issued, following preparation of an EIS, shall not be valid unless it has an Annex signed by the Director stipulating the conditions to be implemented.

The review times for the EIA process are summarised in Table 15.6.

Table 15.6: Review times for a EIA process

Step	Action	No. of days[14]	Comment
1	Developer to submit Terms of Reference to ZEMA		
2	ZEMA to accept or reject Terms of Reference	5	
3	Developer to submit names of environmental project team to ZEMA for approval	–	
4	Developer to submit EIS to ZEMA		
5	ZEMA to send to authorising agency for comment	7	
6	Authorising agency to send comments to ZEMA	30	
7	ZEMA to publicise EIS	15	
8	Public comment period	20	From end of step 7
9	*Additional comment period*	*15*	*Optional*
If no public hearing is required, go to step 15.			
10	ZEMA to publicise public hearing	15	
11	Notice period for public hearing	15 – 25	From last day of public notices (step 10)
12	*Extension of notice period*	*10*	*Optional*
13	Submission of public hearing report to ZEMA	15	From date of public hearing
14	Decision by ZEMA	30	
15	Decision by ZEMA if no public hearing	20	After original submission of EIS to ZEMA (step 4). As noted in the footnote, this 20-day period is incorrect and is under review.
16	Communication of decision to interested and affected parties	15	After step 15
Appeals			
17	Written appeals to be submitted to the Minister	10	After step 16
18	Minister's decision on the appeals	14	

14 A day means an official *working* day.

Note that all the documentation relating to the Project Brief, the EIS, public comments, the Terms of Reference and specialist studies, for example, will be regarded as public documents (Regulation 26). If the developer requires any part of the information to remain confidential, s/he must apply in writing to ZEMA in the manner prescribed in Regulation 27 and his/her request will be considered. If accepted, all designated proprietary information will be kept confidential. If the application is rejected, the developer will be given an option whether to continue with the EIA process or to withdraw the application.

The environmental authorisation issued by ZEMA will be valid for a period of three years. If no work has started on the project within that period, the developer must reregister with the authorising agency. The authorising agency will then have to decide whether another EIS is required or whether a supplement to the original EIS can be submitted (Regulations 30–33).

15.4.7 Post-assessment environmental audits

28. 1) In executing a project, the developer shall take all practicable measures to ensure that the conditions attached to an authorisation document are complied with.
2) Subject to sub-regulation (3), the developer shall undertake an environmental audit of the project within a period of *not less than twelve months* and *not more than thirty-six months* after the completion of the project or the commencement of its operations, whichever is earlier.
3) Not withstanding sub-regulation (2), ZEMA may ask the developer to undertake an environmental audit at any time.
4) The environmental audit shall be carried out by at least two appropriately qualified persons from the team that prepared the EIS and, where this is not possible, by persons whose names and qualifications have been approved by ZEMA for the purpose.
5) The audit shall focus on the implementation of the conditions attached to the authorisation document and shall include conclusions on the extent to which:

a) the measures specified in the conditions have been implemented according to the schedule; and
b) the measures are achieving the expected results and, where deficiencies exist, suggest measures to deal with them.

6) ZEMA may, after receiving the environmental audit report referred to in sub-regulation (7), require the developer to carry out specified remedial actions and further audits at such times as it considers necessary.

7) An environmental audit report shall be prepared after each audit and shall be submitted to ZEMA by the developer within such time as may be determined.

29. 1) An inspector may at all reasonable times enter upon any land, premises or other facilities related to a project for which a Project Brief or an EIS has been made under these Regulations, to undertake investigations relating to the implementation of any condition or measure to be taken following an environmental audit.

15.5 Other relevant environmental legislation in Zambia

Environmental issues cut across a range of sectors, and numerous pieces of legislation in Zambia have a bearing on the environment and should be considered in EIA decision-making. The sectors, titles of the legislative instruments, the responsible agency and the purpose of the legislation are summarised in Table 15.7.

Table 15.7: Other potentially applicable sectoral requirements

Environmental component	Responsible agency	Title and date of legislation	Purpose
Water resources	Department of Water Affairs – Ministry of Energy and Water Development	1. Water Resources Management Act, 2011, repeals the Water Act, Cap. 312, 1948	The Act provides for the ownership, control and use of water. It delegates management of water resources through Catchment Councils established under the Act, consisting of the water users of the catchment. It further provides for the equitable, reasonable and sustainable use of water resources in Zambia.
		2. National Water Policy, 1994 3. Water Pollution Control (Effluent and Wastewater) Regulations, 1993	The Policy and Regulations promote sustainable water resources development to facilitate an equitable provision of adequate and quality water for all users and to ensure security of supply under varying conditions.
		4. Water Supply and Sanitation Act, No. 28 of 1997	This Act regulates water supply and sewerage utilities to protect consumers from unjustified tariffs.
Air	ZEMA	Air Pollution Control (Licensing and Emission Standards) Regulations, 1996, made in terms of Part V of EPPCA, 1990	The Regulations require point source polluters to be licensed.
Noise	ZEMA	Part VIII of EPPCA, 1990	The Act provides for noise emission standards to be established and requires permits to exceed these standards. Regulations are in draft.
Waste	ZEMA	Waste Management (Transporters of Wastes/Operation of Waste Disposal Sites) Regulations, 1993, made in terms of Part VI of EPPCA, 1990	The Regulations aim to ensure adequate waste management for all project sites and operating areas. They require the transportation and disposal of waste and the operation of waste sites to be licensed.

Table 15.7: Other potentially applicable sectoral requirements *(continued)*

Environmental component	Responsible agency	Title and date of legislation	Purpose
Hazardous waste	ZEMA	Hazardous Waste Management Regulations, 2001, made in terms of Part VI of EPPCA, 1990	The Regulations provide for the storage, transportation, handling, treatment and the control of illegal trafficking of such waste and the licensing of such activities.
Toxic substances and other environmentally hazardous substances	ZEMA	1. Pesticides and Toxic Substances Regulations, 1994, made in terms of Part VII of EPPCA, 1990	The Regulations stipulate the registration, labelling and packaging, general handling, use and safety, and storage and disposal of pesticides and toxic substances.
		2. Ozone-Depleting Substances Regulations, No. 27 of 2000	The Regulations set out the control measures and permit requirements.
	Radiation Protection Board, Ministry of Health and ZEMA	3. Ionising Radiation Act, 1975, and Part IX of EPPCA	The Act provides for the protection of public workers from dangers arising from the use of devices or materials capable of producing ionising radiation.
Energy	Ministry of Energy and Water Development	1. Energy Regulation Act, Cap. 436, 1995 2. National Energy Policy	The Act establishes the Energy Regulation Board and provides for the licensing of undertakings for the production of energy or the production or handling of certain fuels.
Electricity	Ministry of Energy and Water Development Energy Regulation Board	Electricity Act	This is the governing Act for the operations of the power stations.
Health	Ministry of Health	Public Health Act, No. 22 of 1995	The Act provides for the prevention and suppression of diseases and the general regulation of all matters connected to public health.
Planning and zoning	Ministry of Local Government and Housing	Town and Country Planning Act, Cap. 283, 1962, as amended	The Act provides for the appointment of planning authorities to prepare, approve and revoke development plans and control the development and subdivision of land.
Forestry	Forestry Department – Ministry of Tourism, Environment and Natural Resources	1. Forest Act, No. 7 of 1999 2. National Forestry Policy 3. Local Forests Control and Management Regulations	These control, manage, conserve and administer national and local forests, and control the participation of local communities, traditional institutions and non-governmental organisations. They relate to the conservation and sustainable use of forests and trees, and the implementation of international instruments.
Mining and mineral resources	Ministry of Mines and Mineral Development	Mines and Minerals Act, No. 31 of 1995	The Act regulates the law relating to mines and minerals.
Petroleum resources	Ministry of Mines and Mineral Development	Petroleum (Exploration and Production) Act, No. 13 of 1985	The Act aims to regulate the exploration, development and production of petroleum products. Even though it contains some environmental obligations, it is silent on natural gas exploration. Moreover, it does not require EIAs before applying for the licensing of petroleum exploration and production activities.
Conservation	Ministry of Tourism, Environment and Natural Resources	Natural Resources Conservation Act, Cap. 315, 1970, read with Part X of EPPCA, 1990	The Act relates to the monitoring of natural resource conservation and utilisation outside forest reserves and national parks.
		National Policy on Wetlands Conservation, September 2001	This Policy was formulated in response to the fragmented sectoral policies and Acts. It aims to provide a holistic programme of action to promote the conservation and wise use of wetland ecosystems. It acknowledges the importance of wetland ecosystems in Zambia in providing major fisheries and as important habitats for various wildlife species.

Table 15.7: Other potentially applicable sectoral requirements *(continued)*

Environmental component	Responsible agency	Title and date of legislation	Purpose
Wildlife and natural resources	Zambia Wildlife Authority	Zambia Wildlife Act, No. 12 of 1998	The Act controls and manages national parks, game management areas and bird sanctuaries for purposes of conserving and enhancing wildlife ecosystems.
Agriculture and land	Ministry of Agriculture and Cooperatives Ministry of Lands	1. Agriculture (Fertilizer and Feeds) Act, No. 226 of 1990 2. Lands Act, 1995	The Act regulates and controls the manufacture, processing, importation and sale of agricultural fertilisers and feed, and establishes minimum standards of purity.
Fisheries	Fisheries Department – Ministry of Agriculture and Cooperatives	Fisheries Act, Cap. 200, 1974	The Act provides for the development of commercial fishing, the registration of fishermen and their boats, and the protection of endangered species.
Transmission	Ministry of Energy and Water Development	Electricity Act, 1995	-
Tourism	Ministry of Tourism, Environment and Natural Resources	Tourism Act, No. 29 of 1985	The Act provides for the control of tourism enterprises. Although it makes no explicit reference to environmental protection, conservation or natural resource management, the Act does provide for appeals against authorising tourist projects deemed to affect Zambian tourism negatively – which is generally based on natural resources.
Archaeological, historical and cultural	National Heritage Conservation Commission – Ministry of Tourism, Environment and Natural Resources	National Heritage and Conservation Act, 1989	The Act provides for the conservation of ancient, cultural and natural heritage, relics and other objects of aesthetic, historical, pre-historical, archaeological or scientific interest.
Zambezi River	Zambezi River Authority	Zambezi River Authority Act, No. 17 of 1987	The Act provides for the interstate agreement between Zambia and Zimbabwe relating to the utilisation of the Zambezi River (Kariba Dam).
Development	Zambia Development Agency	Zambia Development Agency Act, 2006	The Act provides a framework for efficient, effective and coordinated development through private sector-led economic development strategies.
Other	Various government departments	International and regional conventions and protocols	These give direction to local resource management.

Appendix 15-1

List of projects requiring a Project Brief

As prescribed in section 3(2) of the EIA Regulations, a developer must compile a Project Brief if the project is listed in the First Schedule.

First Schedule

Projects

a) Urban area rehabilitation
b) Water transport
c) Flood control schemes
d) Exploration for and production of hydrocarbons, including refining and transport
e) Timber harvesting and processing in forestry (sic)
f) Land consolidation schemes
g) Mining and mineral processing, reduction of ores, minerals, cement and lime kilns
h) Smelting and refining of ores and minerals
i) Foundries
j) Brick and earthen manufacture (sic)
k) Glass works
l) Brewing and malting plants
m) Plants for manufacture of coal briquettes
n) Pumped storage schemes
o) Bulk grain processing plants
p) Hydropower schemes and electrification
q) Chemical processing and manufacture.

Others

a) Resettlement schemes
b) Storage of hydrocarbons
c) Hospitals, clinics and health centres
d) Cemetery designation
e) Touring and recreational development in national parks or similar reserves
f) Projects located in or near environmentally sensitive areas, such as:
    i. Indigenous forests;
    ii. Wetlands;
    iii. Zones of high biological diversity;
    iv. Areas supporting populations of rare and endangered species;
    v. Zones prone to erosion or desertification;
    vi. Areas of historical and archaeological interest;
    vii. Areas of cultural or religious significance;
    viii. Areas used extensively for recreation and aesthetic reasons;
    ix. Areas prone to flooding and natural hazards;
    x. Water catchments containing major sources for public, industrial or agricultural uses; and
    xi. Areas of human settlements (particularly those with schools and hospitals).

Appendix 15-2

List of projects requiring an EIA

In terms of section 7(2) of the EIA Regulations, 1997, a developer is required to compile an EIS if the development is listed in the Second Schedule.

Second Schedule

1. Urban development

a) Designing of new townships, which are 5 ha or more in size, or sites covering 700 dwellings and above;
b) Establishment of industrial estates;
c) Establishment or expansion of recreational areas, such as golf courses, which would attract 200 or more vehicles; and
d) Shopping centres and complexes with floor areas of 10 000 m^2 and above.

2. Transportation

a) All major roads outside urban areas, the construction of new roads and major improvements over 10 km in length, or over 1 km in length if the road passes through a national park or game management area;
b) Railway lines 10 km away from built-up areas;
c) Airports and airfields whose runways are 1800 m or more in length;
d) Pipelines: for water, diameter 0.5 m and above, and with a length of 10 km outside built-up areas; for oil, 15 km or more in length, of which 5 km or more of their length will be situated in a protected area, a seriously polluted or a water abstraction area (sic); and
e) Establishment or expansion of harbours or pontoon areas.

3. Dams, rivers and water resources

a) Dams and barrages covering a total of 25 ha or more;
b) Exploration for, and use of, groundwater resources, including the production of geothermal energy; water to be extracted to be more than 2 million m^3/s; and
c) Water supply – reservoir surface area of 50 m^2 or more.

4. Mining: including quarrying and opencast extraction

a) Copper mining, coal site (sic);
b) Limestone, sand, dolomite, phosphate and clay extractions of 2 ha or more;
c) Precious metals (silver, zinc, cobalt, nickel);
d) Industrial metals;
e) Gemstones; and
f) Radioactive materials.

5. Forestry-related activities

a) Clearance of forestry in sensitive areas, such as watershed areas or for industrial use of 50 ha or more;
b) Reforestation and afforestation; and
c) Wood processing plants of 1000 tonnes or more.

6. Agriculture

a) Land clearance for large-scale agriculture;
b) Introduction and use of agrochemicals new to Zambia;
c) Introduction of new crops and animals, especially exotic ones new to Zambia;
d) Irrigation schemes covering an area of 50 ha or more;
e) Fish farms, of which production is 100 tonnes or more per year; and
f) Aerial and ground spraying – industrial scale.

7. Processing and manufacturing industry

a) Cement works and lime processing – 1000 tonnes or more a year;
b) Fertiliser manufacturing or processing – 1000 tonnes or more per year;
c) Tanning and dressing of hides and skins – 1000 skins per week
d) Abattoirs and meat processing plants – 20 000 carcasses and above per month;
e) Fish processing plants – more than 100 tonnes a year;
f) Pulp and paper mills – daily output of 50 air-dried tonnes and above per day; and
g) Food processing plants – 400 tonnes or more output a year.

8. Electrical infrastructure

a) Electricity generation stations;
b) Electrical transmission lines – 220 kV and more than 1 km in length; and
c) Surface roads for electrical and transmission lines for more than 1 km long.

9. Waste disposal

a) Sites for solid disposal: construction of permanent disposal sites with 1000 tonnes and above a day;
b) Sites for hazardous disposal of 100 tonnes or more a year; and
c) Sewage disposal works – with a capacity of 15 000 litres or more a day.

10. Nature conservation areas

a) Creation of national parks, game management areas and buffer zones;
b) Commercial exploitation of natural fauna and flora; and
c) Introduction of alien species of flora and fauna to local ecosystems.

Appendix 15-3

Issues to be considered when preparing Terms of Reference

The following impacts and issues may, among others, be considered for inclusion, as appropriate, in the preparation of the Terms of Reference.

1. Ecological considerations, including

a) Biological diversity
   i. Effect on number, diversity, breeding sites, etc. of flora and fauna;
   ii. Breeding populations of fish and game; and
   iii. Effects on the gene pools of domesticated and wild sustainable yield.

b) Sustainable use, including:
   i. Effects on soil fertility;
   ii. Nutrient cycles;
   iii. Aquifer recharge, water runoff rates, etc.;
   iv. Aerial extent of habitats; and
   v. Bio-geographical processes.

2. Social, economic and cultural considerations, including:

   i. Effects on generation or reduction of employment in the area;
   ii. Social cohesion or disruption (resettlement);
   iii. Immigration (including induced development when people are attracted to a development site because of possible enhanced economic opportunities);
   iv. Communication – roads opened up, closed, rerouted; and
   v. Local economic impacts.

3. Landscape

   i. Views opened up or closed;
   ii. Visual impacts (features, removal of vegetation, etc.);
   iii. Compatibility with surrounding areas; and
   iv. Amenities opened up or closed e.g. recreation facilities.

4. Land use

   i. Effects on land uses and land potential in the project area and in the surrounding areas; and
   ii. Possibility of multiple uses.

5. Water

   i. Effects on surface water quality and quantity;
   ii. Effects on underground water quality and quantity; and
   iii. Effects on the flow regime of the watercourse.

6. Air quality

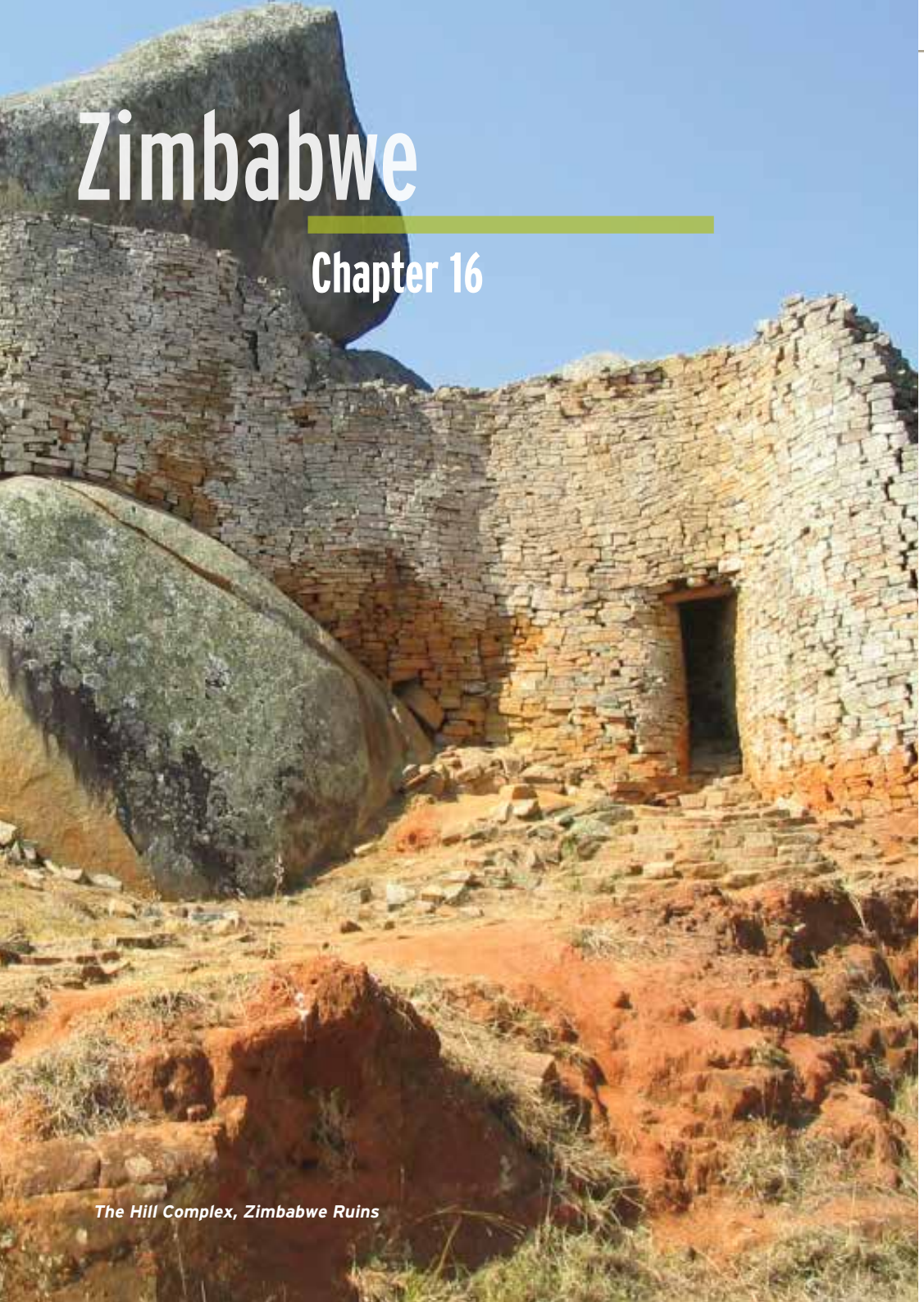
   i. Effects on the quality of the ambient air of the area; and
   ii. Type and amount of possible emissions (pollutants).

Acronyms

EIA	environmental impact assessment
EIS	Environmental Impact Statement
EPPCA	Environmental Pollution Prevention and Control Act
NORAD	Norwegian Agency for Development Cooperation
UNDP	United Nations Development Programme
ZEMA	Zambia Environmental Management Agency
ZESCO	Zambian Electricity Supply Company Ltd

Useful contacts

Department	Ministry	Telephone	Fax	Website
Zambian Environmental Management Agency	Ministry of Tourism Environment and Natural Resources	+260 1 254130	+260 1 254164	www.necz.org.zm



Zimbabwe

Chapter 16

The Hill Complex, Zimbabwe Ruins

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Zimbabwe

16.1 Constitutional requirements for environmental protection in Zimbabwe

The current Constitution of Zimbabwe (2000) has no specific clause that provides for the protection of the environment.[1] However, section 4 of the 2002 Environmental Management Act (EMA) (Chapter 20:27) affords all citizens of Zimbabwe the following environmental rights:

- The right to live in a clean environment that is not harmful to their health;
- Access to environmental information;
- The right to protect the environment for the benefit of present and future generations; and
- The right to participate in the implementation of legislation and policies that prevent pollution and environmental degradation and promote the sustainable management and use of natural resources, as well as justifiable economic and social development.

16.2 Institutional and administrative structure for environmental impact assessment in Zimbabwe

16.2.1 Ministry of Environment and Natural Resources Management

The ministry with overall responsibility for the environment is the Ministry of Environment and Natural Resources Management,[2] formerly known as the Ministry of Environment and Tourism. The general functions of the Minister of Environment and Natural Resources Management are to:

- Regulate the management of the environment and promote, coordinate and monitor the protection of the environment and the control of pollution.
- Regulate the activities of all government agencies and other agencies in terms of their impact on the environment.
- Present to Parliament a report on the state of the environment at the end of every five years.
- Monitor the environment, trends in the utilisation of natural resources, and the impact of such utilisation on the environment.
- Coordinate the promotion of public awareness and education on environmental management.
- Ensure that persons and institutions responsible for causing environmental harm meet the cost of remedying that harm.
- Formulate policies for environmental management and cause these to be implemented.
- Recommend to the government to which international and regional conventions and treaties on the environment Zimbabwe should become a party and secure their incorporation into domestic law.[3]

Environmental management is regulated by three related agencies in the Ministry of Environment and Natural Resources Management: the National Environmental Council, the Environmental Management Agency and the Environmental Management Board.

16.2.2 National Environmental Council

The functions of the National Environmental Council (see Figure 16.1) are as follows:

- Give advice on policy formulation and provide directions on the implementation of the EMA.
- Give advice on national goals and objectives for the protection of the environment.
- Promote cooperation among public departments, local authorities, the private sector, non-governmental organisations and other organisations that deal with environmental issues.
- Review and recommend to the Minister guidelines for environmental management plans and environmental action plans.
- Review national environmental policies, plans and strategies.[4]

16.2.3 Environmental Management Agency

The 2002 EMA (Chapter 20:27) provides for the establishment of the Environmental Management Agency, formerly known as the Department for Natural Resources.

The Agency is responsible for:

- Formulating quality standards on air, water, soil, noise, vibration, radiation and waste management;
- Assisting and participating in any matters pertaining to the management of the environment, such as:
  - Developing guidelines for National Plans, environmental management plans and local environmental action plans;
  - Regulating and monitoring the collection, disposal, treatment and recycling of waste;
  - Monitoring and regulating the discharge or emission of pollutants or hazardous substances into the environment;

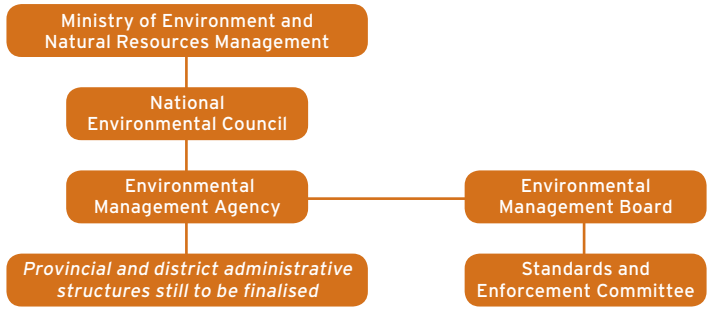
1 Republic of Zimbabwe, 2009. *Constitution of the Republic of Zimbabwe* (as at the 19th Amendment). Harare: Government of Zimbabwe.
2 Ministry names as listed on the official parliamentary website: www.parlzim.gov.zw
3 Zimbabwe Environmental Law Association, 2003. *Summary of the Environmental Management Act (Chapter 20:27) for use by community groups.* www.zela.org
4 Zimbabwe Environmental Law Association, 2003.

- Keeping records in the form of registers of all licences and permits issued under the law;
- Monitoring and regulating the control of invasive alien species;
- Regulating, monitoring, reviewing and approving EIAs;
- Regulating and monitoring the management and utilisation of ecologically fragile ecosystems;
- Making bylaws within the jurisdiction of local authorities;
- Advising government on conventions and treaties that should be incorporated into national law;
- Coordinating the production of a five-year environmental report;
- Developing and implementing incentives for the protection of the environment;
- Carrying out periodic environmental audits of any projects, including projects whose implementation started before a fixed date, to ensure that their implementation complies with the requirements of the Act;
- Regulating and monitoring access by any person to biological and genetic resources; and
- Making recommendations to the Minister on the formulation of any regulations.

16.2.4 Environmental Management Board

The Agency is controlled and managed by the Environmental Management Board, which is composed of experts from the areas of environmental planning and management, environmental economics, ecology, pollution, waste management, soil science, hazardous substances, water and sanitation. In addition, there is a legal representative and a secretary to the ministry responsible for the environment. Figure 16.1 provides a diagrammatic representation of the organisational structure.

Figure 16.1: Proposed organisational responsibilities and institutional arrangements[5]



5 Source: Second Draft, National Environmental Policy, 2003.

16.3 Policy and legal framework for EIA

To date, the focus of environmental management in Zimbabwe has been on developing an effective and efficient legal and administrative framework to facilitate the management of natural resources.[6] The National Conservation Strategy of 1987 was the first policy document to incorporate the concept of sustainability into development and environmental management. This policy formed the foundation for a law reform process, which resulted in the 2002 EMA (Chapter 20:27), as amended in March 2006. Although a second National Environmental Policy (2003) was drafted after the promulgation of the original Act, it was only adopted by Parliament in 2005.

16.3.1 National Environmental Policy and Strategies

The National Environmental Policy and Strategies, adopted in 2005, was finally gazetted in June 2009. Its vision closely follows the National Development Objective of the government, which is 'to alleviate poverty and improve the quality of life of the people of Zimbabwe'. In line with the vision, the goal of the National Environmental 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 standard of living of Zimbabweans through long-term economic growth and the creation of employment.*

This goal places environment at the centre of efforts to create economic opportunities.[7] In order to achieve this policy goal, a number of specific environmental policy objectives need to be met. These are as follows:

- Conserve biodiversity and maintain the natural resource base and basic environmental processes to enhance environmental sustainability.
- 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.
- Encourage sustainable development by optimising the use of resources and energy and minimising irreversible environmental damage, waste production and pollution through incorporating provisions for environmental assessment and management in all economic and development activities.

6 Spong, P-J, Booth, V & Walmsley, B, 2003. Country Chapter: Zimbabwe. In: SAIEA (Southern African Institute for Environmental Assessment), *EIA in southern Africa*. Windhoek: SAIEA.
7 Government of Zimbabwe, 2009. *National Environmental Policy and Strategies*. Harare: Ministry of Environment and Natural Resources Management.

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

16.3.2 Environmental Management Act (Chapter 20:27)

The Environmental Management Act (EMA) (Chapter 20:27), No. 13 of 2002, was enacted in 2002 and amended on 25 March 2006. It aims to 'provide for the sustainable management of natural resources and protection of the environment; [and] the prevention of pollution and environmental degradation'. The Act also provides for the establishment of an Environmental Management Agency and an Environmental Fund. The EMA repeals the following former Acts:

- Natural Resources Act (Chapter 20:13)
- Atmospheric Pollution Prevention Act (Chapter 20:03)
- Hazardous Substances and Articles Act (Chapter 15:05)
- Noxious Weeds Act (Chapter 19:07).

The EMA is a general legislative framework and does not cover every environmental aspect. It is a framework law that will be complemented by other laws and policies that are not in conflict with it. However, where there are conflicts, this Act will take precedence. The law will be supported by the setting up of the proposed institutions and the promulgation of Regulations by the Minister. Nevertheless, the Act provides the general environmental principles that should be followed in environmental management.[8]

The provisions of the EMA that relate to EIAs in particular are set out in section 97 of the Act and summarised below.

- A person who proposes to embark on any of the projects listed in the First Schedule (Appendix 16-1) is expected to submit an EIA report to the Director-General.
- The developer can only embark on the project if s/he has obtained a certificate from the Director-General.
- The developer is expected to submit a prospectus to the Director-General with information on the assessment and the project (see section 16.4.1).
- It is an offence for any person to knowingly implement a project without a certificate showing that an EIA has been carried out.

8 Zimbabwe Environmental Law Association, 2003.

Some of the sectors in which EIAs should be carried out are as follows (see also Appendix 16-1):

- Dams and manmade lakes;
- Drainage and irrigation;
- Housing developments;
- Industry;
- Mining and quarrying;
- Petroleum production, storage and distribution;
- Power generation and transmission;
- Tourist resorts and recreational developments;
- Waste treatment and disposal;
- Water supply;
- Conversion of forest land into other use; and
- Conversion of natural woodland to other use within the catchment area of reservoirs used for water supply, irrigation or hydropower generation or in areas adjacent to parks and wildlife estates.[9]

16.3.3 Regulations

In 2007, several Statutory Instruments (SIs) were passed in terms of section 140 of the EMA (Chapter 20:27). These regulations are significant in that they operationalise the Act in the different sectors. They provide for the specific procedures to be followed in complying with the provisions of the Act. More importantly, they incorporate the modern principles of environmental management, such as polluter pays, public participation, prevention of harm, environmental rights, and so on. The following information was obtained from the Zimbabwe Environmental Law Association website (www.zela.org/site/newsletter.asp).

Environmental Management (Environmental Impact Assessments and Ecosystems Protection) Regulations, SI No. 7 of 2007

The Environmental Management (Environmental Impact Assessments and Ecosystems Protection) Regulations deal with the regulation of the EIA process and the protection of ecosystems. Part 11 of the Act stipulates that no industrial project shall be implemented without an EIA having been done. These Regulations provide the method of doing the EIA. The developer has to submit a prospectus to the Agency (see section 16.4.1), which will issue a licence if satisfied by the contents of the prospectus. The prospectus has to contain details of the environmental impacts of the project and the measures to be taken to contain or mitigate such impacts. In preparing an EIA, a developer is obliged to consult widely with all stakeholders. The Agency will not issue

9 Zimbabwe Environmental Law Association, 2003.

a licence if it is not satisfied that the developer consulted with all stakeholders in the preparation of the prospectus. It should also be noted that projects that began before the Act was promulgated are subject to periodic environmental audits by the Agency.

Regrettably, the Regulations neither provide specifically for the manner in which the consultation of stakeholders should be carried out nor do they stipulate the stakeholders. There is also no measure to ensure that the concerns of the stakeholders are incorporated in the prospectus.

Waste and Solid Waste Disposal Regulations, SI No. 6 of 2007

The Waste and Solid Waste Disposal Regulations concern the disposal of effluent and solid waste. They prohibit any person from disposing waste into a public stream or groundwater without a licence. Furthermore, every generator of waste (except households) is now required to develop a waste management plan by 31 December each year. The plan should deal with the quantity of waste, components of the waste, goals for the reduction of the quantity and pollutant discharges of the waste, transportation and disposal of the waste, and adoption of environmentally sound management of the wastes. It is an offence for any waste generator to fail to produce a waste management plan.

Hazardous Substances, Pesticides and Toxic Substances Regulations, SI No. 12 of 2007

The Hazardous Substances, Pesticides and Toxic Substances Regulations provide for the labelling, packaging, repackaging and sale of hazardous substances or articles containing hazardous substances in Zimbabwe. The Regulations prescribe conditions that employers have to observe in the handling of hazardous substances at the workplace, conditions for transporting hazardous substances, and procedures to be followed when there is an accidental spillage of hazardous substances.

The Agency is empowered to issue spot fines to any person who violates the law. In addition, any person whose substances affect the environment is liable to pay for the cost of restoring the environment (i.e. the polluter pays principle). The offender is also liable to pay compensation for any damage that the offence caused to any person.

Plastic Bottles and Plastic Packaging Regulations, SI No. 98 of 2010

The Plastic Bottles and Plastic Packaging Regulations encourage a reduction in the use of certain types of plastics. According to Article 3(1), it is prohibited to produce, import or distribute plastic packaging with a thickness of less than 30 microns.

16.3.4 Environmental Impact Assessment Guidelines (1997)

To support the 1997 Environmental Policy, the Ministry of Environment and Tourism published EIA guidelines to facilitate the implementation of EIAs within specific sectors.[10] These guidelines cover:

- Mining and quarrying
- Forestry
- Agriculture
- Transport
- Energy
- Water
- Urban infrastructure
- Tourism.

For each of these sectors, the guidelines provide examples of major activities that are likely to be undertaken for projects in that sector, the type of environmental impacts, possible measures for managing such impacts, sample Terms of Reference, and sources of information for use in an EIA study. Government authorities, developers and EIA practitioners use the guidelines, which provide valuable assistance in implementing EIAs and improving the quality of sector-specific EIAs. Due to the comprehensive nature of these guidelines, they have not been included in this chapter.

16.3.5 Permits and licences

In the past, permits for new projects were granted in terms of the Regional, Town and Country Planning Act (Chapter 29:12). Under the new EIA Regulations (SI No. 7 of 2007), this has changed, and local authorities can only issue licences to developers after first seeing the licence from the Agency confirming that an EIA has been approved.

In terms of the Regional, Town and Country Planning Act, the Ministry of Environment and Natural Resources Management is regarded as the local authority for parks, wildlife and forest lands. The developer must undertake an EIA for any developments in these specific land use areas.

The Mines and Minerals Act regulates mining projects and requires an EIA to be undertaken and the policy condition to be met for these projects.

Permits relating to water abstraction and water storage are granted in accordance with the Water Act.

The Waste Disposal Licence is issued by the Agency and is renewable on an annual basis. The licence holder is obliged to pay inspection fees and

10 Spong et al., 2003.

environmental fees to the Agency. A licence is not required for household or domestic waste disposal or for the application of inorganic fertilisers for agricultural production.

16.3.6 Funding and fees

Project developers are responsible for preparing EIA reports and for meeting the costs associated with the preparation of the reports, including the studies, research and compilation of the reports.

The government requires a fee to be paid for the review of the EIA by the Agency. These fees change quarterly and, therefore, developers are advised to consult the Agency about the fee tariffs.

16.3.7 Environmental quality standards

One of the committees of the Environmental Management Board is the Standards and Enforcement Committee (see Figure 16.1). Its functions are as follows:

- Advise the Environmental Management Board on criteria and procedures to be followed for measuring water quality.
- Recommend the minimum quality standards for water for different uses, such as drinking water and water for industrial use, agricultural use, recreational purposes, fisheries, wildlife and any prescribed use of water.
- Analyse and submit to the Board conditions for the discharge of effluent into the environment.
- Prepare and recommend to the Board guidelines or regulations for the preservation of fishing areas, aquatic areas, water sources and reservoirs.
- Identify and recommend to the Board areas of research on the effect of water pollution on the environment, human beings, flora and fauna.
- Advise the Board to carry out investigations of actual or suspected water pollution.
- Collect, maintain and interpret data from industries and local authorities on the pre-treatment, nature and levels of effluents.
- Recommend measures to the Board for the treatment of effluent before being discharged into water or the sewerage system.

Sections 55–86 of the EMA deal with environmental quality standards for:

- Water pollution (sections 57–59)
- Air quality (sections 63–68)
- Waste management (sections 69–76)
- Noise (sections 80–81)
- Noxious smells (section 82)
- Littering (section 83)
- Radioactive wastes (section 84).

These sections empower the Minister (on the recommendations of the Standards and Enforcement Committee) to prescribe emission limits and quality standards for the various pollutants and emissions listed. The relevant sections also required owners or operators of polluting facilities or activities to obtain a licence from the Environmental Management Board. Penalties, fines and measures of recourse for non-compliance are outlined.

The SIs on waste and solid waste (SI No. 6 of 2007) and hazardous substances (SI No. 12 of 2007) provide regulations to give effect to the legal prescriptions on pollution and waste.

The Standards and Enforcement Committee is currently developing draft guidelines for air quality.

16.3.8 Certification of environmental assessment practitioners

EIA practitioners do not require accreditation, but they do need to register with the Agency, which maintains a database of all consultants who have undertaken EIA studies in Zimbabwe. The lack of accreditation is a problem and the need for a formal accreditation process has been recognised.[11] The majority of practitioners are locally based. There is no legal requirement for EIA practitioners to be independent of the proponent.

16.4 EIA procedural framework in Zimbabwe

The EIA decision-making process is illustrated in Figure 16.2. The types of projects that require an EIA are listed in the First Schedule of the Act and set out in Appendix 16-1.

16.4.1 Prospectus

Before carrying out the EIA for a prescribed activity, the developer must submit a prospectus to the Director-General of the Agency, containing information on the EIA and the project. However, as there are no thresholds specified for any of the prescribed activities, the EIA policy requires any developer to submit a prospectus so that the Director-General can determine whether an EIA is required. The prospectus is similar in some aspects to the initial EIA that is required in other countries, and must be produced for all First Schedule activities (see Appendix 16-1). According to the policy, the developer should be able to prepare the prospectus without help from EIA or environmental specialists. Therefore, the prospectus may not contain as much information as an initial EIA; it should, however, contain the following information:

11 Spong et al., 2003.

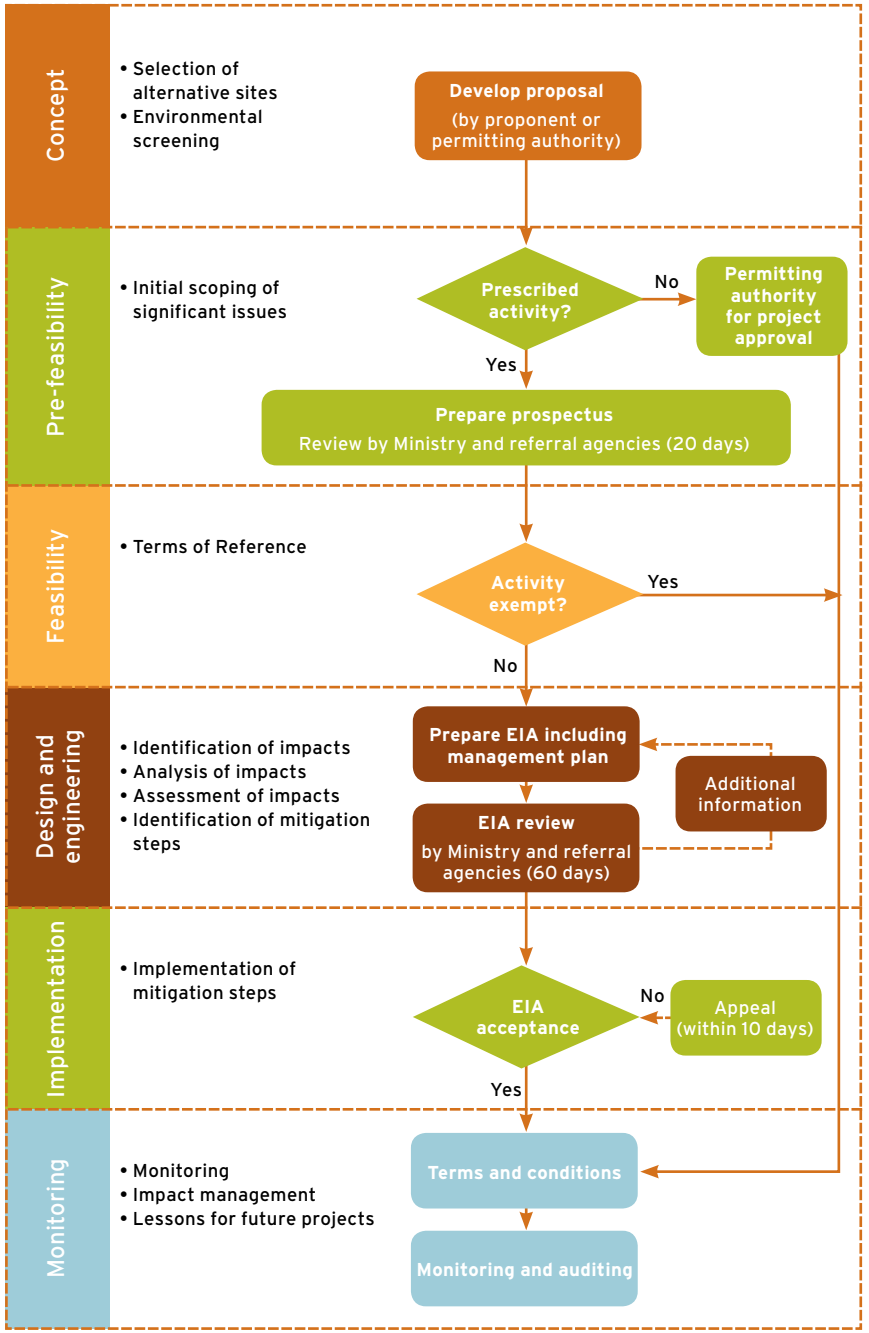
- A description of the proposed project;
- The current status of the project, whether it is at the feasibility, planning, design or implementation stage; and
- A description of the known or predicted environmental impacts.[12]

The Director-General will then review the prospectus and, on completion, may ask the developer to submit any further information that may be required. The Director-General may do either of the following:

- Approve the prospectus, if s/he is satisfied that the proposed EIA is capable of evaluating the project's impact on the environment, and ask the developer to proceed with the proposed EIA.
- Reject the prospectus and request a fresh one, if s/he is not satisfied that the EIA adequately addresses the environmental impacts of the project.

12 Government of Zimbabwe, 2002. *Environmental Management Act (Chapter 20:27).* Harare: Government Printers.

Figure16.2: EIA process in Zimbabwe



16.4.2 Contents of an EIA report

If the Director-General approves the prospectus, s/he may also set out certain conditions relating to the scope of the assessment, including the appointment of an independent expert in environmental assessment to prepare the EIA report. The developer is required to comply with these conditions. EIA reports must contain the following information:

- A detailed description of the proposed project and the activities that will be undertaken during its implementation;
- Reasons for the selection of the proposed site of the project;
- A detailed description of the direct, indirect, cumulative, short and long-term impacts the project will have on the various sections of the environment;
- Specification of the measures proposed for eliminating, reducing or mitigating the anticipated adverse effects of the project;
- Identification and description of methods for monitoring and managing the adverse environmental effects;
- An indication of whether the environment of any other country is likely to be affected by the project and the measures that will be taken to minimise any damage to that environment;
- How the developer plans to integrate biological diversity into the project (where applicable); and
- A concise description of the methodology used by the developer when compiling the EIA report.[13]

There are certain projects that may be deemed exempt from an EIA after the Agency has reviewed the prospectus according to its screening guidelines. A project will be considered to be exempt from an EIA if:

- It does not utilise natural resources to such an extent that current and future use of those resources will be affected.
- The potential environmental impacts are minor and can easily be managed.
- The type of project, its environmental impacts, and measures for managing these impacts are clearly understood.
- The environmental impacts and the measures for managing them have already been clearly incorporated into the project design.
- It will not displace a significant number of people.
- It is not undertaken in environmentally sensitive areas, such as national parks, wetlands, productive agricultural lands, sites protected by legislation, or sites with rare or endangered species.
- It will not result in significant emissions of pollutants or release of waste materials whose disposal is not covered by existing legislation.

13 Government of Zimbabwe, 2002.

The criteria relating to the size of the project and the potential for the displacement of people are considered particularly important.

Every developer must take all reasonable measures to prevent or mitigate any adverse or undesirable impacts on the environment that may arise from the implementation of the project. The measures taken have to be reported to the Director-General, unless they are already contained within the EIA report.

16.4.3 Consideration of EIA report and issuing of certificates

The Agency will review the final EIA report. If it does not have adequate expertise in a particular area, it may ask other government departments to review the report, such as the Forestry Commission or the Zambezi River Authority. On reviewing the report, the Agency can do one of the following:

- Approve the project to which the EIA report relates.
- Require the developer to conduct a further EIA for part or the whole of the project.
- Request the developer to supply additional information or complete such other tasks as the Director-General considers necessary.

The Director-General will consider the following when deciding whether to approve the EIA:

- The likely impacts of the proposed project, as well as the actual impacts on the environment of any existing projects that are similar;
- The extent to which the project complies with the National Plan, as well as any local environmental action plans; and
- Any consultations with any authority, organisation, community, agency or person who, in his opinion, has an interest in the project.

If the project is approved, the Director-General will issue a *certificate,* which:

- Identifies the project;
- Contains the name and address of the developer, or if the developer is a company, the registered office of the company;
- States the date of issue and the date of expiry of the certificate;
- Sets out any conditions imposed by the Director-General; and
- Sets out any other matters deemed necessary by the Agency or the Director-General.[14]

Once a certificate has been issued, the developer may approach the relevant authorities for a *permit* to implement a new project (see section 16.3.6). The certificate is valid for two years from the date of issue. It may be extended by not more than a year for a project that has commenced but is not completed

14 Government of Zimbabwe, 2002.

within the stipulated period. However, if the project is not started within the two-year period, the certificate expires and the developer needs to apply for a new one. The Director-General keeps a register of certificates, which is open to inspection by the public. The transfer of certificates between people is prohibited without prior approval of the Director-General.[14]

The Director-General is also able to amend, suspend or cancel a certificate if new information is provided that indicates that the project is a potential source of pollution or any other threat to the environment that require a new EIA to be conducted. The Director-General may also amend the certificate or any of the conditions under which the certificate was issued, including directions on minimising or preventing threats to the environment in the planning, execution and monitoring of the project. The developer must also inform the Director-General if the project is not implemented or if it is altered within the period of the certificate's validity.

The EIA policy states that the review should be completed within *60 days*. If this deadline is not met, it can be assumed that the EIA Acceptance has been granted. However, larger projects and developers seek to obtain official EIA Acceptance in order to safeguard against possible future repercussions.

If the project is rejected, the developer has ten days in which to lodge an appeal with the Ministry.

16.4.4 Appeals

Any person who is not satisfied with the decision or action of any authority can appeal against that decision or action in writing to the Minister, who, in turn, will refer it to the Administrative Court. The Court will decide whether to confirm, vary or set aside the decision or action appealed against (section 130 of the EMA).

Any person who is aggrieved by the decision or action of an inspector is allowed to appeal against that decision or action to the Director-General of the Agency (section 129 of the EMA).

16.4.5 Environmental audits of projects

Section 106 of the EMA allows the Director-General to carry out periodic environmental audits of any project, including those that commenced before a fixed date, to ensure that the project complies with the Act and any conditions set out by the Agency on its certificate. The developer is also required to keep such records and reports for submission to the Agency as the Director-General may specify.

14 Government of Zimbabwe, 2002.

16.4.6 Inspection of EIA reports

Any EIA report will be available for public inspection at any reasonable time at the Director-General's office. The information in the report is not to be used by any person for personal benefit, other than for civil proceedings under the Act or any other law as a matter relating to the protection of the environment.

16.4.7 Public consultation process

Public participation is a requirement of the EIA process, and the policy states that the public should participate in the preparation and review of EIA reports. However, in practice, public participation has often been limited to consultation with the affected communities. These consultations typically focus on determining the probable impacts and the mitigation measures that will be acceptable to the community involved. Consultation methods include questionnaire surveys, group discussions and informal and formal meetings with community or local leaders. A few large public meetings have been conducted for very large projects, but the public is generally unaware of the importance of the role they can play in the EIA process. Centralisation of the EIA review process has also not promoted public participation.

16.4.8 Quality assurance

The quality of EIAs is promoted by the requirement for the Agency to review and approve the EIA report and the Terms of Reference. In addition, the review of the EIA report by various concerned government departments and, possibly, by experts invited by the Agency goes a long way toward ensuring that EIAs are of acceptable quality. In addition, no projects can be approved before an official EIA Acceptance has been issued.[15]

16.5 Other relevant environmental legislation in Zimbabwe

Environmental issues cut across a range of sectors, and numerous pieces of legislation in Zimbabwe have a bearing on environmental management and sustainable development. These should be considered during the EIA decision-making process. The relevant pieces of legislation and the responsible administrative agencies are listed in Table 16.1.

15 Zimbabwe Environmental Law Association, 2003.

Table 16.1: Key policies and laws relating to environmental management[16]

Act or Policy	Key elements	Implementing authority[17]
Environmental Management Act, 2002	This Act repealed the following Acts: • Natural Resources Act (Chapter 20:13); • Atmospheric Pollution Prevention Act (Chapter 20:03); • Hazardous Substances and Articles Act (Chapter 15:05); and • Noxious Weeds Act (Chapter 19:07). The Act creates a framework for environmental management, makes provision for the formulation of environmental quality standards (e.g. air, water, noise, effluents, waste and hazardous substances), and promotes the development of national environmental policies, plans and strategies. The Act requires EIAs to be undertaken for prescribed activities, and specifies procedures for the administration of the EIA process.	Ministry of Environment and Natural Resources Management
EIA Policy, August 1997	This Policy requires the responsible authorities not to grant permits to projects that are required to have an EIA before such an EIA has been undertaken, reviewed and accepted by the Department of Natural Resources (now the Environmental Management Agency). EIA is regarded as part of project planning. This Policy is supported by Environmental Guidelines for various sectors, and led to the promulgation of the Environmental Management Act (Chapter 20:27).	Ministry of Environment and Natural Resources Management
National Environmental Policy and Strategies, 2009	The aim 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'. The Policy thus creates appropriate conditions for long-term programmes that integrate sustainable resource utilisation with the country's social and economic development.	Ministry of Environment and Natural Resources Management
Water Act, 2003 (Chapter 20:24)	This Act updates the Water Act, No. 31 of 1998. It stipulates that the National Water Authority and Catchment Councils shall prepare an Outline Water Development Plan for each river system. The Act makes provision for the formation of Catchment Councils, which shall issue water use permits in terms of the Act. Such permits are valid for a period of 20 years unless otherwise stated by the relevant Catchment Council.	Ministry of Water Resources and Development
Forest Act, 1949 (Chapter 19:05)	The Act provides for demarcating forests and nature reserves, conserving timber resources, regulating trade in forest produce, and regulating the burning of vegetation.	Ministry of Environment and Natural Resources Management
Parks and Wildlife Conservation Act, 1975 (Chapter 20:14)	The Act establishes national parks, botanical reserves and gardens, sanctuaries, safari areas and recreational parks; provides for the conservation and control of wildlife, fish and plants; and designates specially protected animals and indigenous plants.	Ministry of Environment and Natural Resources Management
Natural Resources Act (Chapter 150)	The Act outlines national strategies for the conservation and enhancement of natural resources.	Ministry of Environment and Natural Resources Management
Communal Land and Forest Produce Act, 1988 (Chapter 19:04)	The Act controls the use of wood resources within communal lands. Such resources are only for the domestic use of the residents.	Ministry of Environment and Natural Resources Management

16 Zimbabwe Environmental Law Association, 2003.
17 Ministry names from official parliamentary website: www.parlzim.gov.zw

Table 16.1: Key policies and laws relating to environmental management *(continued)*

Act or Policy	Key elements	Implementing authority[17]
Rural District Councils Act, 1989 (Chapter 29:13)	The Act allows for the establishment of Rural District Councils responsible for initiating and regulating development in rural areas.	Ministry of Local Government, Urban and Rural Development
Fertiliser, Farm Feeds and Remedies Act, 1953 (Chapter 18:12)	The Act provides for the registration of fertilisers, farm feeds and sterilising plants. It also regulates the importation and sale of fertilisers and seed.	Ministry of Agriculture, Mechanisation and Irrigation Development
Mines and Minerals Act 1961 (Chapter 21:05)	The Act regulates the acquisition of mining rights, prospecting for and extraction of minerals, and decommissioning of mining works.	Ministry of Mines and Mining Development
Trapping of Animals (Control) Act, 1974 (Chapter 20:21)	The Act prohibits making, possessing or using certain types of traps, and specifies the purposes for which animal trapping is permitted.	Ministry of Environment and Natural Resources Management
Locust Control Act, 1971 (Chapter 19:06)	The Act regulates the control of locusts.	Ministry of Agriculture, Mechanisation and Irrigation Development
Plant Pests and Diseases Act, 1959 (Chapter 19:08)	The Act provides for the eradication and prevention of the spread of plant pests and diseases.	Ministry of Agriculture, Mechanisation and Irrigation Development
Prevention of Cruelty to Animals Act, 1960 (Chapter 19:09)	The Act prohibits activities considered cruel to animals.	Ministry of Environment and Natural Resources Management

Appendix 16-1

Environmental Management Act (Chapter 20:27) First Schedule: Projects that require an EIA

1. Dams and manmade lakes

2. Drainage and irrigation

a) Drainage of wetland or wildlife habitat; and
b) Irrigation schemes.

3. Forestry

a) Conversion of forest land to other land use; and
b) Conversion of natural woodland to other use within the catchment area of reservoirs used for water supply, irrigation or hydropower generation or in areas adjacent to parks and wildlife estates.

4. Housing developments

5. Industry

a) Chemical plants;
b) Iron and steel smelters and plants;
c) Smelters other than iron and steel;
d) Petrochemical plants;
e) Cement plants;
f) Lime plants;
g) Agro-industries;
h) Pulp and paper mills;
i) Tanneries;
j) Breweries; and
k) Industries involving the use, manufacture, handling, storage, transport or disposal of hazardous or toxic materials.

6. Infrastructure

a) Highways;
b) Airports and airport facilities;
c) New railway routes and branch lines;
d) New towns or townships; and
e) Industrial sites for medium and heavy industries.

7. Mining and quarrying
a) Mineral prospecting;
b) Mineral mining;
c) Ore processing and concentrating; and
d) Quarrying.

8. Petroleum production storage and distribution
a) Oil and gas exploration and development;
b) Pipelines;
c) Oil and gas separation, processing, handling and storage facilities; and
d) Oil refineries.

9. Power generation and transmission
a) Thermal power stations;
b) Hydropower schemes; and
c) High-voltage transmission lines.

10. Tourist resorts and recreational developments
a) Resort facilities and hotels;
b) Marinas; and
c) Safari operations.

11. Waste treatment and disposal
a) Toxic and hazardous waste: incineration plants, recovery plants (off-site), wastewater treatment plants (off-site), landfill facilities, storage facilities (off-site);
b) Municipal solid waste: incineration, composting and recycling or recovery plants, landfill facilities; and
c) Municipal sewage: waste treatment plants, outfalls into aquatic systems, effluent water irrigation schemes.

12. Water supply
a) Groundwater development for industrial, agricultural or urban water supply;
b) Major canals;
c) Cross-drainage water transfers;
d) Major pipelines; and
e) Water withdrawals from rivers or reservoirs.

Acronyms

EIA	environmental impact assessment
EMA	Environmental Management Act
SI	Statutory Instrument

Useful contacts

Official and title	Ministry	Address	Telephone
Director-General	Environmental Management Agency, Ministry of Environment and Natural Resources Management	Kaguvi Building, 11th Floor Central Avenue (between 4th and 5th Street) Harare Website: www.met.gov.zw	+263 4 700681/5 **Fax** +263 4 753649
Chief Ecologist	Environmental Management Agency, Ministry of Environment and Natural Resources Management	Kaguvi Building, 11th Floor Central Avenue (between 4th and 5th Street) Harare Website: www.met.gov.zw	+263 4 700681/5 **Fax** +263 4 753649
Senior Ecologist	Environmental Management Agency, Ministry of Environment and Natural Resources Management	Kaguvi Building, 11th Floor Central Avenue (between 4th and 5th Street) Harare Website: www.met.gov.zw	+263 4 700681/5 **Fax** +263 4 753649
Provincial Natural Resources Officers	All provincial staff can be contacted c/o the Environmental Management Agency, Ministry of Environment and Natural Resources Management	c/o Kaguvi Building, 11th Floor Central Avenue (between 4th and 5th Street) Harare Website: www.met.gov.zw	+263 4 700681/5 **Fax** +263 4 753649
Zimbabwe Environmental Law Association	Non-governmental organisation	6 London Derry Road Eastlea Harare	+263 4 700681/5 **Fax** +263 4 753649

Notes

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