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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 (GRM 2000). To achieve this requires the development of activities contributing to the rational use of resources and the maintenance of environment balance. Much progress has been made, but there are many obstacles still to overcome, many of which are highlighted in the National Environmental Management Programme (NEMP). For example:

Os principais problemas ambientais de Moçambique situam-se ao nível político, institucional (fraca capacidade institucional e técnica, ausência de coordenação inter-sectorial, excessiva centralização), nos aspectos legais (legislação sectorial existente desactualizada e/ou com lacunas) e na fraca informação e investigação ambientais.  
(MICOA 1996)

The current reliance of the country on its natural resource base requires the promotion and development of sustainable livelihood strategies. In this context, the NEMP makes the following critical statements:

Uma correcta e eficiente gestão ambiental pressupõe o reforço das capacidades de funcionamento de todas as instituições intervenientes.  
(2)

and

O sucesso de implementação de uma política de desenvolvimento sustentável passa por uma educação ambiental de boa qualidade e extensiva a todos os sectores.  
(3)

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. The fundamental challenge remains to translate these good intentions into practice. Elevating the political status of the relevant government agencies, and enhancing their capacity, is central to the effective implementation of these provisions. The current status of legislation and regulations regarding EIA (environmental impact assessment), and the country’s improving capacity to implement the EIA process, reflects one significant positive step towards meeting this challenge.

Background

Mozambique is a coastal country located between 11°27’S and 26°52’S, and 30°51’E and 40°51’E. The total land area is 801,590 km², with a coastline of 2,470 km. The country is bordered by South Africa and Swaziland in the south, Zimbabwe, Malawi and Zambia in the west, Tanzania in the north and the Indian Ocean in the east. Mozambique is sparsely populated and about 80% of the country’s approximately 18 million people live in rural areas, subsisting off the land.

Compared with other countries in the region, Mozambique has a rich natural resource base including untransformed indigenous forests, savanna woodlands and coastal habitats. About 25% of the land has commercial forestry potential, 12.5% constitutes state-protected areas and a further 22% comprises potential wildlife habitat. Biodiversity is high with 5,500 plant species, 222 mammals, 580 birds, 167 reptiles, and 39 amphibians recorded to date. Some areas have been designated as globally significant with respect to their biodiversity.

Natural disasters

Flooding as a consequence of cyclones is not uncommon in Mozambique, but the floods in January to March 2000 were unprecedented, causing unparalleled social, economic and environmental impacts. There are numerous contributing factors, notably climatic variability, the locations of major rivers and inadequate water management. A disaster reduction strategy based on improved meteorological forecast capabilities in combination with more effective monitoring of water levels and currents in the main rivers is now being developed in parallel with several integrated river basin management initiatives. The aim is to create a regional-scale integrated flood warning system including early warning mechanisms, contingency disaster plans, improved local communication and education for populations living in high-risk areas (UNDP 2000a).

Figure 1: Average temperatures and rainfall at Maputo

![Figure 1: Average temperatures and rainfall at Maputo](http://example.com/figure1.png)


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1 The principal environmental problems in Mozambique are located at the policy institutional (weak institutional and technical capacity, absence of intersectoral coordination, excessive centralisation) and legal (sectoral legislation outdated and/or with gaps) levels, and are aggravated because little environmental information is available and little investigation has taken place.

2 Correct and efficient environmental management presupposes the strengthening of the capacity of all involved institutions.

3 The successful implementation of a sustainable development policy depends on a high quality and extensive environmental education for all sectors.

### Table 1: Key environmental impacts

<table>
<thead>
<tr>
<th>Environmental impact</th>
<th>Prevalence</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Deforestation and use of forest products</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Clearing forests for subsistence and commercial agriculture and use of bush fires for land clearing and hunting</td>
<td>Countrywide</td>
<td>High</td>
</tr>
<tr>
<td>• Wood collection for fuel and charcoal</td>
<td>Southern region and areas surrounding urban centres, especially Maputo City and Beira, as well as along transport corridors in central and northern regions</td>
<td>Very high</td>
</tr>
<tr>
<td>• Logging and selective harvesting of hardwoods</td>
<td>Central and northern regions, especially Sofala, Zambezia and Cabo Delgado Provinces, where moratoria have been declared on the export of precious hardwoods</td>
<td>Very high in cited areas</td>
</tr>
<tr>
<td>• Harvesting forest products</td>
<td>Countrywide, but particularly pronounced in the vicinity of urban centres</td>
<td>Low in rural areas, depending on product harvested</td>
</tr>
<tr>
<td><strong>Land degradation and soil erosion</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Unsustainable farming practices</td>
<td>Countrywide, but locality-specific</td>
<td>Medium, but very high in limited areas</td>
</tr>
<tr>
<td>• Poor planning and ad hoc development of human settlements</td>
<td>Urban areas</td>
<td>High in localised areas</td>
</tr>
<tr>
<td>• Mining</td>
<td>Localised projects</td>
<td>Medium to high in localised areas</td>
</tr>
<tr>
<td>• Infrastructure development</td>
<td>Transport corridors</td>
<td>Low to medium, depending on locality</td>
</tr>
<tr>
<td><strong>Loss of wildlife and biodiversity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• War activities, and post-war commercial and subsistence hunting</td>
<td>Countrywide</td>
<td>Generally low, but very high for large mammal species, especially in protected areas</td>
</tr>
<tr>
<td>• Habitat transformation</td>
<td>Concentrated around main urban centres</td>
<td>Generally low, but high in the vicinity of urban areas</td>
</tr>
<tr>
<td>• Invasive alien species</td>
<td>Localised</td>
<td>Low</td>
</tr>
<tr>
<td><strong>Harvesting coastal and marine resources</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Subsistence and commercial fishing</td>
<td>Countrywide, both inshore and in deep waters</td>
<td>Subsistence activities: Generally low, but high in the vicinity of Maputo and Beira; Commercial activities: High to very high, depending on stocks</td>
</tr>
<tr>
<td>• Harvesting mangroves</td>
<td>Concentrated near urban centres</td>
<td>Generally low, except near Maputo and other coastal cities</td>
</tr>
<tr>
<td>• Impacts on coral reefs</td>
<td>Concentrated around tourist nodes</td>
<td>Low</td>
</tr>
<tr>
<td><strong>Use of inland water resources</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Damming for hydroelectric power and water abstraction for irrigation</td>
<td>Selected rivers</td>
<td>Varies from low to very high</td>
</tr>
<tr>
<td>• Exploitation of inland fisheries</td>
<td>Selected lakes, most notably Lakes Cahora Bassa and Niassa/Malawi</td>
<td>Currently low but expected to increase</td>
</tr>
<tr>
<td>• Water resource use and management by upstream countries</td>
<td>Selected rivers</td>
<td>Very high</td>
</tr>
<tr>
<td>• Water pollution due to industrial activities, sewage disposal and farming</td>
<td>Concentrated around cities</td>
<td>Variable</td>
</tr>
<tr>
<td><strong>Unplanned development of human settlements</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Poor infrastructure and inadequate access to basic services</td>
<td>Urban areas</td>
<td>Very high in informal settlements in and around cities</td>
</tr>
<tr>
<td>• Exposure to natural hazards such as flooding in low-lying areas and landslides</td>
<td>Urban areas</td>
<td>Very high in informal settlements in and around cities, especially Beira</td>
</tr>
<tr>
<td>• Exposure to polluting activities</td>
<td>Localised, especially in Maputo</td>
<td>Variable</td>
</tr>
<tr>
<td>• Adverse impacts on potential future use of natural resources and, hence, environmental quality, e.g. fuelwood use</td>
<td>Urban areas</td>
<td>Variable</td>
</tr>
<tr>
<td><strong>The industrialisation process</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Mozambique has actively promoted several industrial mega-projects which, although subjected to environmental assessments, have the potential to generate significant environmental impacts.</td>
<td>Concentrated around Maputo and the southern region</td>
<td>Variable</td>
</tr>
</tbody>
</table>
Environmental impacts of development

Natural resources underpin the economy and livelihoods in Mozambique. Forests, grasslands, mangroves, freshwater lakes and rivers, the intertidal zone and littoral waters, as well as the wildlife these habitats support, provide many goods and services. Most of these natural assets are in a healthy condition, partly as a result of low population densities and low levels of economic development, most of which are concentrated in a few urban centres. Environmental problems, therefore, are relatively localised, but some have become more serious in recent years and have the potential to generate lasting adverse impacts on livelihoods. Table 1 lists the environmental impacts that most significantly affect the sustainability of livelihoods in Mozambique. Many of these issues are interconnected. For example, slash-and-burn agricultural practices clear forest vegetation, increasing the risk of soil erosion and land degradation.

Transboundary environmental impacts

Upstream activities have impacted heavily on river flows in Mozambique as it is the last country to receive waters of many major and minor rivers that discharge into the Indian Ocean. For example, shrimp production on the Sofala Bank (off the Zambezi Delta) is reported to have declined following the impoundment of the Zambezi River at Kariba in 1956.

Since 1996, Mozambique and South Africa have been promoting the concept of transport corridors as a vehicle for economic development (most notably the Maputo Transport Corridor linking Maputo with the Pretoria–Witwatersrand–Vereeniging (PWV) area, the industrial heartland of South Africa). Due to lack of adequate land planning and/or strategic environmental assessments this has resulted in ad hoc and unplanned developments.

Transboundary initiatives in Mozambique focus on conservation (reserves and wildlife corridors), economic development (spatial development initiatives, or SDIs, and transport corridors) or integrated management (river basins and transfrontier conservation areas), and have arisen because of the need for better management of shared resources and economic growth through regional integration and development. Transboundary initiatives require strategic assessments of land-use potentials and environmental constraints, as well as EIAs to determine the possible impact of:

- infrastructure and industrial development (SDIs and transport corridors);
- establishing transboundary parks (resettlement and natural resource management), and
- managing inland water resources (dam construction, water abstraction, etc.).

Socio-economic profile

Mozambique has undergone a period of significant economic recovery since the signing of the peace accord in 1992 and the first democratic elections in 1994. The Government of Mozambique has assisted this growth effort with prudent fiscal and monetary policies and a programme of market liberalisation that has boosted investor confidence. As part of the reform process more than 1,200 state-owned companies have been restructured or privatised. Foreign exchange has been liberalised and a progressive investment regime aims to encourage free-trade zones for the export of manufactured products. Neighbouring South Africa accounts for nearly half of the foreign investment, either directly or via British-based companies, followed by France and Portugal.

The annual economic growth rate in recent years has generally been high (Figure 2).

The low gross domestic product (GDP) figure in 2000 was due to the devastating floods that severely disrupted activities in the agriculture and manufacturing sectors – two of the most...
Economically important sectors. Economic growth is not evenly distributed across the country; the south is significantly more developed than the central and northern regions.

Yet by any economic and social indicators the country remains one of the poorest in the world (Table 2) and is heavily dependent on foreign assistance to maintain consumption while allowing government investment to expand the economy.

Agriculture and trade are the main economic activities, with each contributing over 20% to GDP. However, the importance of agriculture is even greater than this figure suggests since more than 80% of the population, mainly rural, are directly dependent on small-scale agriculture. About 45% of the total land is potentially arable – a high percentage compared to other countries in the region – but only 10% of the arable land (or 4% of the total land surface) is cultivated because population density in Mozambique is relatively low compared with other southern African countries. Farmers on smallholdings occupy about 90% of the cultivated land and are responsible for most of the country’s agricultural output.

Vast forestry, mining, fishing, tourism and energy resources offer enormous potential. The Government’s promotion of decentralisation, and the focus on community-based natural resource management in virtually all recent policies and laws, provide an enabling environment for partnerships between communities, public bodies and private enterprises. A key challenge is to ensure that communities gain tangible benefits from the natural resource base; this will be addressed through awarding communities formal land rights over the land and natural resources (as recognised in the new Land Act of 1997) so that they can enter into mutually beneficial legal partnerships with the private sector.

Obstacles to continued economic growth

Despite the profound political and economic changes in Mozambique in the last decade, poverty remains severe and widespread. The key obstacles to economic growth are the following:

- Reliance on agriculture, low agricultural productivity, poor access to markets and high transport costs
- Poor education and health
- The debt burden
- Reliance on fuelwood and charcoal
- Limited access to safe drinking water, and inadequate sewage and waste disposal systems
- The mismatch between customary and constitutional rights
- Limited access to health-care services
- Limited awareness and ability to cope with HIV/AIDS, and
- Malnutrition and food insecurity.

### Table 2: Social indicators, 2000

<table>
<thead>
<tr>
<th>Social indicator</th>
<th>Mozambique</th>
<th>Sub-Saharan Africa</th>
<th>Low-income countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>GNP (gross national product) per capita (US$)</td>
<td>230</td>
<td>480</td>
<td>520</td>
</tr>
<tr>
<td>Position in United Nations human development index</td>
<td>168 out of 174</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Life expectancy at birth (years)</td>
<td>47</td>
<td>51</td>
<td>63</td>
</tr>
<tr>
<td>Infant mortality (per 1,000 live births)</td>
<td>134</td>
<td>91</td>
<td>69</td>
</tr>
<tr>
<td>Child malnutrition (% of children under 5)</td>
<td>41.0</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Access to safe water (% of population)</td>
<td>24.0</td>
<td>47.0</td>
<td>74.0</td>
</tr>
<tr>
<td>Illiteracy (% of population aged 15+)a</td>
<td>60.0</td>
<td>42.0</td>
<td>32.0</td>
</tr>
<tr>
<td>HIV/AIDSb prevalence rate (%)</td>
<td>14.5</td>
<td>7.0</td>
<td>–</td>
</tr>
</tbody>
</table>

Source: Adapted from World Bank (2000).

a The worst illiteracy rate is for rural women (55.1%).
b Human immunodeficiency virus / acquired immune deficiency syndrome.
Legal profile

Background
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. Following the creation of the National Environmental Commission (NEC) in 1990, environmental issues began to receive an increasingly higher profile. In an effort to ensure sustainable development in its drive for economic growth, the Government created the Ministério para a Coordenação da Acção Ambiental (MICOA) from the NEC shortly after the holding of the first election in 1994.

Since 1994, MICOA has developed a legal framework for environmental management, with the following the essential elements:

- National Environmental Management Programme (MICOA 1996)
- Framework Environmental Act (No. 20 of 1997)
- EIA Regulations (Decree No. 76 of 1998), and
- EIA guidelines (in preparation)

In addition to the formulation of environmental policies, laws and regulations, other important legal instruments that contribute to improved environmental management include the Land Act (No. 19 of 1997) and the Forestry and Wildlife Act (No. 10 of 1999).

Environmental policy and legislation
The National Environmental Management Programme
One of MICOA’s first tasks was to formulate the NEMP to promote and implement sound environmental policy. The NEMP (MICOA 1996) was approved by the Council of Ministers in 1996 and contains an ‘Environmental Policy’, a proposal for the ‘Framework Environmental Act’ (subsequently passed in 1997) and an ‘Environmental Strategy’.

In accordance with the NEMP, MICOA, in close coordination with other ministries, private and civil groups, is working towards the —

- development of intersectoral policies for sustainable development
- development and promotion of integrated planning of resource use
- promotion of sector legislation and establishment of norms and criteria for environmental protection and sustainable use of natural resources, and
- creation of conditions conducive to law enforcement and environmental monitoring.

The new environmental laws, while targeting the sustainable use of natural resources, also provide a unique opportunity to take into consideration the environmental aspects of any project as an integral part of its design and sustainability. EIA is progressively becoming a key factor for approving development initiatives in the country.

The Framework Environmental Act
The Framework Environmental Act aims to provide a legal framework for the use and correct management of the environment and its components and to assure the sustainable development of Mozambique.

Chapter 4 of the Act 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 Framework Environmental Act 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 is in conformity with the new Act (Article 32).

A National Commission for Sustainable Development, linked to the Council of Ministers, was created in October 2000 by a provision in the Act. This Commission seeks to ensure the effective coordination and integration of sectoral policies and plans related to environmental management at the highest level.

The Land Act
The Land Act, its Regulations (Decree No. 66 of 1998) and Technical Annex (Ministerial Diploma No. 29-A of 2000) provide the legal framework for the ownership and control of land and natural resources in Mozambique. The Act recognises the need to protect ecologically sensitive areas through the creation of protected areas and, therefore, provides an additional legal basis for demarcating areas for protection and conservation (Article 5) and the creation of total and partially protected zones (Article 6). Importantly, the Act also recognises the rights of local communities over land and natural resources — thereby offering, for the first time, the possibility of involving rural communities fully in the management and conservation of natural resources (Article 31).

The Forestry and Wildlife Act
In 1997, the Government adopted a new Forestry and Wildlife Policy and Strategy (GRM 1997). The overall objective is:

- to conserve, utilize and develop forest and wildlife resources for the social, ecological and economic benefit of the present and future generations of the Mozambican people.

In accordance with the objectives of the Forestry and Wildlife Policy and Strategy, a new Forestry and Wildlife Act was passed. The Act confirms the rights of the State over natural forest and wildlife resources in the country although private individuals, organisations and local communities may have access to these resources by way of licences and concessions. However, an
The essential principle of this Act is that local communities must be fully involved in the conservation and sustainable use of forestry and wildlife resources.

General EIA guidelines

In 2001, draft EIA guidelines that are applicable to a variety of development projects were prepared and distributed (MICOA 2001). These describe, inter alia, in more detail the environmental parameters that need to be measured during an EIA and the process for identifying alternatives. These are still under discussion and have not yet been finalised.

Sectoral EIA guidelines

A long-term objective of MICOA is to assist the various sectors in drawing up sector-specific EIA guidelines for roads, transmission lines, hydroelectric schemes and irrigation, for example. Since 2001, MICOA, together with the National Roads Administration has been preparing guidelines which will cover the construction of new roads as well as road rehabilitation and maintenance. Consequently, the guidelines for the roads sector is at the most advanced stage of all sectors. It is envisaged that these guidelines will be approved in 2003 (MICOA 2002).

Figure 4: MICOA’s organisational structure

Mozambique has adequate EIA legislation, and institutional structures have been created.
Created in 1995, the Ministério para a Coordenação da Acção Ambiental (MICOA), has two broad domains of responsibility:

1. Implementing the NEMP and associated environmental policy and legislation, and
2. Coordinating with other ministries on environmental matters to integrate environmental aspects in their projects, programmes and policies.

MICOA’s organisational structure at central level is shown in Figure 4, reflecting seven years of institutional development. Principal areas of operational and planning activity are organised into five National Directorates: Environmental Impact Assessment; Management of Natural Resources; Land Planning; Promotion of Environmental Awareness; and Planning.

MICOA and EIA

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 a staff 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 positively motivated, the EIA Department lacked the human resources to efficiently implement EIA procedures.

In December 1999, an independent consultancy mission performed a functional analysis and capacity needs assessment (cited in IME Consult 2000) and, as a result, the EIA Department was upgraded to the National Directorate of Environmental Impact Assessment, 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. Regulating EIAs requires significant interaction and coordination with other government sectors involved in development and investment projects, and, consequently, MICOA has assumed a more visible profile.

The National EIA Directorate currently comprises eight professional staff members including the National Director, who are deployed flexibly for the tasks arising within the Directorate while formally assigned to two departments – an EIA Department (five staff members) and an Environmental Auditing Department (two staff members). Six of the eight professional staff members hold Licenciatura degrees (approximately equivalent to BSc degrees), mostly in Biology, while the other two staff members are working towards their Licenciatura degrees. Another nine staff positions (with Licenciatura degree requirements) exist, but whether or when they will be filled depends on budgetary allocations.

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 and accepted by the National Directors in charge of tourism, industry, forestry and wildlife.

Other key activities related to EIA and sustainable development

- **Environmental audit and inspection:** Environmental auditing and inspection govern all development activities implemented since the enactment of the Environmental Act in 1997, irrespective of whether or not an environmental licence is required. MICOA has started to draft environmental audit and inspection regulations for internal discussion and subsequent wider consultation. These draft regulations require technical review and improvement prior to submission to the Council of Ministers for approval.

- **Environmental quality standards:** Since 1997, MICOA has been developing environmental quality standards through the Development of Standards Project. Draft regulations have been developed and are awaiting approval by the Council of Ministers.

- **Environmental management plans:** These are being developed by the National Directorate for Land Planning. This Directorate was formed by the integration of the former National Institute of Physical Planning with MICOA.

- **Environmental education and training:** This is the responsibility of the National Directorate for Environmental Promotion and Education, which has so far concentrated its efforts on key civil society groups such as teachers and journalists.

Devolution of responsibilities, including EIA

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 and Provincial Directorates have...
Public consultation is mandatory and is normally conducted by the contracted specialist consultants.

The role of the provincial directorates 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. However, in practice, the envisaged role of MICOA’s provincial structures continues to be strongly curtailed by the severe lack of institutional capacity, and central ministry staff often continue to be involved in monitoring and enforcement activities at the provincial level. The EIA Department in Nampula Province, for example, can count on only one mid-level professional, despite the large number of actual or planned development projects in the Province. Similarly, Cabo Delgado’s EIA Department has a total of four staff members with little or no background in environmental monitoring and assessment.

Figure 5: A snapshot of EIA in Mozambique

<table>
<thead>
<tr>
<th>Screening</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screening is the responsibility of MICOA and is conducted according to a list of activities requiring EIA, as per the EIA regulation. For projects to be implemented in environmentally sensitive areas, an EIA may be mandatory even if the projects are not listed as requiring an EIA.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Scoping</th>
</tr>
</thead>
<tbody>
<tr>
<td>The EIA study team is responsible for the scoping process. The regulation requires the description of alternatives, including the zero alternative.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Terms of reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normally prepared by the consultant(s) and subject to approval by MICOA</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Consultation of stakeholders and public participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public consultation is mandatory and is normally conducted by the contracted specialist consultants.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EIA study (biophysical and socio-economic)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conducted by a team of consultants as defined in the terms of reference</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Submission and review of the EIA</th>
</tr>
</thead>
<tbody>
<tr>
<td>MICOA has the specific responsibility of reviewing the EIA study in accordance with the requirements established in the legislation and guidelines for review. A decision must be made within 60 working days.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Monitoring and evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitoring mechanisms are developed by the EIA Review and Environmental Inspection Departments. The sectoral ministries are responsible for monitoring during the implementation phase of the activity.</td>
</tr>
</tbody>
</table>

Human resources development and institutional capacity-building

Lack of human resource capacity remains a critical bottleneck to the development of a more effective EIA and sustainable development planning and management system. Public sector salaries are too low to attract experienced practitioners, and new recruits are, generally, qualified but inexperienced. In order to improve the calibre of its staff, MICOA has been running short, in-house training courses, usually delivered by in-house specialists, on environmental regulations, environmental education, environmental management and EIA. In future, greater attention will probably be given to training methodologies that combine the training of in-house trainers with modern, adult-learning principles and techniques, thereby maximising the efficiency and impacts of training.

In fulfilling its environmental coordination responsibilities, MICOA has also run courses and workshops for staff from other government sectors and civil society groups. There is currently no process in place for assessing the environmental training needs outside of MICOA — to date, courses have been advertised in an ad hoc fashion — and a more coherent procedure for assessing training needs is being developed.

Other key government ministries and departments

Environmental management responsibilities are thinly spread across a spectrum of government sectors. The largest ministry, the Ministry of Agriculture and Rural Development, has broad responsibility for natural resource management in key 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’s database. Other key ministries are the Ministry of Fisheries and the Ministry of Trade and Industry — which is involved in most larger development projects for which EIAs are required.

Integration of environmental considerations in other government sectors

MICOA’s efforts to coordinate environmental matters with other government ministries and departments face various challenges, including:

- inconsistencies and contradictions in substance and style across ministries and departments regarding environmental management because roles, positions and modes of cooperation are still evolving

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14 Direcção Nacional de Áreas de Conservação (DNAC).
13 Direcção Nacional de Florestas e Fauna Bravia (DNFFB).
12 Ministério de Agricultura e Desenvolvimento Rural (MADER).
11 Ministério do Turismo.
10 Ministério de Comércio e Indústria.
9 Ministério de Agricultura e Desenvolvimento Rural (MADEA).
8 Direção Nacional de Pescas e Fauna Marinha (DNPFM).
7 Direcção Nacional de Artes de Conservação (DNACO).
6 Ministério do Turismo.
5 Centro Nacional de Cartografia e Telaescenização (CENACARTA).
4 Ministério das Pescas.
3 Ministério de Comércio e Indústria.
• limited human resources and institutional capacity, not only at MICOA but also in other government sectors and especially at the provincial level
• lack of clarity and overlap of environmental management roles and responsibilities among government sectors
• the lack of a culture of communication, information-sharing and cooperation between institutions, and
• planning, operational and human resource constraints in linking the evolving environmental monitoring and enforcement activities at provincial level to the central level.

Addressing these challenges will be critical to the success of EIA and sustainable development planning and management in future.

EIA practice

The EIA process involves two key players, the proponent of a project or a donor (depending on the size of the project) and the EIA team, which can comprise national and foreign companies, universities, research institutions and individuals. Donor-funded projects are typically large-scale and the service contract often includes conditions which require the proponent(s) to adhere to donor-specific EIA protocols (e.g. World Bank, USAID (United States Agency for International Development) and DFID (Department for International Development)), in addition to complying with Mozambique’s EIA regulations.

EIA service providers

Although the number of companies and organisations providing environmental services in Mozambique has progressively increased, the demand for environmental expertise still exceeds supply.

A list of national consultancy companies is given in Table 3.

Local capacity

Although the number of groups providing environmental services has grown since 1994, the number of in-house staff is relatively small. Mozambican companies are dependent on subcontracting consultants from Mozambique, the region or from overseas to provide a full range of services, especially in highly specialised fields. Alternatively, Mozambican companies form associations or joint ventures with foreign companies.

Specialist areas not easily covered in Mozambique include —
• air pollution modelling
• water pollution modelling, including sedimentation rates and treatment
• natural resource economics
• specialist environmental risk analysis, including toxicology, and
• noise pollution and abatement.

The main areas of expertise within Mozambique are —
• environmental monitoring (biological, physical and socio-economic environments)

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<th>Table 3: Companies providing environmental services</th>
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<td>Company</td>
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<td>Impacto</td>
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<tr>
<td>Natural Resources and Biodiversity Group, Eduardo Mondlane University</td>
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<td>SEED (Sociedade de Engenharia e Desenvolvimento Lda)</td>
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<td>Sociedade de Gestão Ambiental</td>
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- natural resource surveys
- biophysical inventories and baseline surveys
- socio-economic surveys, including community participatory methodology
- land-use mapping, and
- an institutional, legal and political framework for environmental management.

Maputo – the capital of Mozambique
In summary, while the private sector collectively has a broad range of skills and experience, its capacity is limited by several factors:

- The number of in-house staff is still relatively small
- A large majority of in-house staff are Mozambicans trained locally and with limited experience in EIA, and
- Local companies are usually limited to a particular area of specialisation, notably biophysical or socio-economic.

The limited capacity of national companies has left the door open for more experienced larger foreign companies. However, this is not viewed as a barrier to capacity development. Development within certain sectors is at a national scale and the resultant programmes are at a national scale and the resultant programmes (e.g. roads, energy, hydrology) require environmental assessments with specialist inputs beyond the capacity of local companies. Whilst the lead agencies for these programmes are typically multinational companies, the norm is for donors to encourage collaborative processes with local partners. This process exposes local consultants to working on large-scale projects within multidisciplinary teams and provides a unique opportunity to gain valuable experience, thereby ultimately enhancing local capacity.

**Overview and assessment of the EIA Regulations**

The NEMP is the guiding policy for environmental protection and EIA is mandatory to all activities that may cause significant impacts. The Framework Environmental Act establishes the regime of environmental licensing based on an EIA. Decree No. 76/98 of 29 December 1998 defines the EIA Regulations (comprising 19 Articles).

**Exemptions**

Separate statutes (Article 2(3) of the EIA Regulations, Decree 76 of 1998) govern activities related to mining. Although this fragmentation ensures specialist input into the development of EIA guidelines within certain sectors such as mining, energy and roads, a potential negative consequence is the risk of inconsistent control over development projects. Effective intersectoral coordination is, therefore, of crucial importance.

The EIA Regulations explicitly exempt listed activities that are required in order to address emergency situations arising from natural or other disasters. In these instances, MICOA is tasked with issuing instructions to direct the exempted activities (Article 2(4) of Decree 76/98). The regulations require in Article 6(2)(e) that emergency and accident identification, response and impact mitigation plans be included in the impact mitigation strategy.

**Environmental assessment at a strategic level**

An important feature of Mozambique’s EIA Regulations is that the Annexure containing the list of identified activities includes both programmes and projects. While EIA is often limited to the project level in practice, more attention should be given to applying environmental assessment tools to more strategic activities such as policies, master plans and legislation. For example, aquaculture is a relatively new development in Mozambique, and, without strategic planning, its associated negative impacts will be compounded.

**Public participation**

Public participation is a critical component of the EIA process. Article 7(2) of the EIA Regulations reinforces the definition of what is intended by public participation, i.e. to disclose information and to receive petitions. Conflict between stakeholders often results from inadequate definition of the intent of public participation, the absence of clearly defined roles, responsibilities and duties of the various stakeholders or the lack of minimum performance standards. In order to establish sustainable EIA relationships, these deficiencies need to be addressed as a matter of urgency.

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*Adapted from Nel (2000).*
Problems related to public participation have arisen in the following specific areas:

- Lack of access to information for all interested and affected parties
- Lack of consultation
- Limited opportunity to provide inputs into the terms of reference
- Lack of opportunity for interested and affected parties to provide inputs from the time the public participation process and the socio-economic surveys have taken place up to project implementation, and
- Lack of impact of public opinion, which is often still overridden by political will and interests.

These problems could be addressed as follows:

- Commence public consultation before the terms of reference are finalised. This is especially important when a project or programme is expected to have a major impact on community life.
- Define ‘key moments’ in the EIA process for the dissemination of information; for example —
  - present draft terms of reference before the EIA
  - present the project concept in the preliminary EIA
  - present major findings and the final report after completion of the EIA
  - present review findings after the EIA review, and
  - present the environmental management plan during implementation of the project or programme.
- By disseminating information effectively, the public will be enabled to make informed opinions about the proposed development. This can be further enhanced through the use of the mass media, and should be the responsibility of the proponent(s) together with the EIA consultant(s).
- Establishing a system of accountability to ensure that the public can impact on the proposed development process. Currently, the degree of consideration given to public opinion depends on the project’s magnitude; projects of great impact take more account of public opinion.

In conclusion, whilst the EIA regulations clearly define the public consultation process they are not, in reality, often followed. All key players, notably the proponent, MICOA, and the EIA consultants, must share the responsibility of ensuring that the public participation component of the EIA process achieves its clearly defined objectives in future.

**Quality assurance**

**Provisions for inspection and auditing**

The EIA Regulations (Decree 76 of 1998) make explicit provision for post-decision follow-up by means of inspection or auditing. Article 15(1) states that —

> ... the Ministry for the Co-ordination of Environmental Affairs should regularly inspect and control the monitorisation [sic] and environmental management of the activity undertaken by the proponent.

MICOA can inspect and control the post-decision activities of the proponent by requesting environmental impact audits to be conducted or by undertaking inspections. The EIA review process should also consider minimum criteria for post-decision performance tracking.

**Accreditation**

The Regulations stipulate that MICOA —

> ... register and maintain a register of professionals and consulting companies qualified to conduct environmental impact studies.

(Article 3(f))

Article 13(1–8) defines the rules of registration. The following provisions, among others, are made:

- MICOA must set up a consultant registration system (Article 13(1)), and
- Only registered consultants, people working for a registered consulting company, or a registered consortium of companies may conduct EIA studies in Mozambique (Article 13(2–3)).

Article 14 further dictates that —

> ... accredited consultants for the undertaking of environmental impact studies are civilly and criminally accountable for information furnished on the environmental impact study report.

The issue of professional registration of EIA practitioners, as well as insurance against possible liabilities, needs to be investigated and further clarified.

**Review and review funding**

All EIA reports prepared as per terms of reference approved by MICOA are reviewed by its technical staff. Where required, MICOA may request external reviewers to review components of the EIA report. Based on the review, the authors of the EIA report may be requested to make amendments to it.

**Funding of the review process**

According to Article 9(8), funding of the review process is the proponent’s responsibility. Despite this, insufficient funding and limited capacity within MICOA impact on the quality of the...
analysis of alternatives

Analysis of alternatives is a weakness both in the EIA reports and in the review process. This is a particularly sensitive issue for developing countries such as Mozambique, where mega-projects that have significant macroeconomic impacts are a novelty but enjoy high-level political support. Economic benefits derived from such projects typically carry a high environmental cost, but because of the prevailing political will and pressure from proponents, little value is placed on the analysis of alternatives. This situation can only be improved if EIA practitioners, and people involved in the review process, adhere to internationally accepted protocols for the analysis of alternatives.

EIA and environmental management plans

After the approval of the EIA by MICOA and the granting of an environmental licence, the investor can proceed to obtain the other necessary licences required to implement the project. The environmental management plan (EMP) provides guidelines for mitigating against predicted negative impacts of the project and is developed in the EIA report, but implementation remains the responsibility of the proponent. A key problem area is the limited capacity to monitor the implementation of the EMP. MICOA is responsible for monitoring, but lacks both the human and material resources necessary to keep pace with development. This lack of monitoring capacity is a constraint to enforcing EMP guidelines and any lapses of accountability during project implementation rarely result in penalties being imposed. This is potentially a fatal flaw in the EIA process in Mozambique as a lack of compliance with EMP guidelines is likely to result in escalating environmental impacts.

EIA and decision-making

Large-scale projects generally attract significant media coverage and stimulate great public interest, and public opinion regarding these projects tends to become polarised. Unfortunately, such projects enjoy high political profile because of their economic importance and, under these circumstances, political will is likely to override any recommendations emerging from the EIA process. However, civil society can have an effective voice in decision-making, especially if consulted sufficiently early in the implementation process. For example, the obsolete Pesticides Incineration Project (proposed in 1998 in Maputo) was of concern to local communities and members of civil society. However, the public perception was that the consultation process was not fully carried out, resulting in strident protests from civil society. Eventually, the project was shelved.

EIA and future sector development

Currently it is difficult to predict how the EIA sector will develop and a sector analysis will only be possible once MICOA completes the compilation of a database for the ±300 projects currently registered with the National Directorate of EIA. Predicted growth sectors such as roads, energy and water will probably largely determine future demand for EIAs. Recent major EIAs in these sectors — such as those conducted for the Mepanda Uncua Dam on the Zambezi River in Tete Province; the Sasol gas exploration, extraction, and pipeline construction project in Inhambane Province; and the pre-feasibility studies conducted for the proposed construction of a deep-water harbour and industrial zone at Ponta Têcohbanine (Porto Dobela) in Maputo Province — also serve to highlight the limited domestic capacity of environmental consultants. All of these projects required the assemblage of multinational teams of specialist consultants to cover the scope of work.

EIA and regional cooperation

EIA practitioners must take cognisance of EIAs in neighbouring countries, as cross-border partnerships often need to be established. Mozambique shares natural resources and development opportunities with other Southern African Development Community (SADC) countries (e.g. South Africa).
and, not surprisingly, some projects and programmes transcend national boundaries. EIAs conducted for such projects currently need to conform to diverse national EIA requirements. Coordination and integration of transboundary EIAs could be enhanced through the alignment of EIA regimes in the region.

**Key successes and challenges**

The existence of MICOA’s Directorate of EIA²⁰ and its broad mandate regarding all aspects of EIA in Mozambique must be considered a key success for a country that only five years ago was ranked 169th of 174 countries in the Human Development Index. This, together with the country’s well-developed environmental legislation, ensures that in a climate of rapid economic growth and development, the importance of environmental protection enjoys a relatively high political profile. This strong legislative platform provides a useful yardstick against which the Government can evaluate the effectiveness of its environmental policy.

Reflecting on the recent history of EIA inspires a level of optimism based on the important role that EIA has already played in ensuring environmental protection. The EIA Regulations are relatively new and it is only in recent years that Mozambique has experienced successes regarding mitigation of adverse environmental impacts through the implementation of pragmatic environmental management (see Appendix 1, Case studies).

By regional, and even international standards, Mozambique’s EIA legislation is comprehensive. Although there is room for considerable improvement this is less significant than problems related to implementation. These are largely centred on inadequate human and material resources and a lack of institutional capacity, a problem common to many of the country’s institutions, especially in the public sector.

Key strengths, weaknesses and challenges of EIA in Mozambique are described below.

**Strengths**
- MICOA’s EIA Directorate and the existence of a comprehensive legal and institutional framework specific to EIA
- The National Environmental Management Plan
- Existing and relatively well-functioning EIA legislation

**Weaknesses**
- Limited human and material resources represent a constraint to reviewing and monitoring components of the EIA process
- Limited human and institutional capacity
- The legal framework for EIA is too generic
- Lack of environmental standards. With increasing industrial development, pollution control and sound and agreed emission standards will become increasingly important
- Inconsistencies in the application of the EIA process in relation to EIA legislation. This is especially true regarding public participation and means that public opinion has little impact on the outcome of an EIA

**Challenges**
- Develop relevant human capacity in EIA service provision, through specialist training of professionals
- Build institutional capacity of private- and public-sector project proponents and Government
- Upgrade public-sector working conditions and secure additional funding to employ more professionals in the public sector, to enable more effective monitoring of compliance with environmental management plans

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²⁰ Direcção Nacional de Avaliação de Impacto Ambiental.
COUNTRY REPORTS

- Review and revise environmental legislation to ensure the effectiveness of the EIA process; for example —
  - provide more explicit guidelines regarding EIA criteria
  - develop sector-specific legislation for EIA, and
  - relieve MICOA of bearing sole responsibility for EIA review
- Improve media coverage of EIA and the public participation process to ensure greater transparency
- Improve in-country specialist capacity to conduct EIAs
- Improve the coordination and participation of all stakeholders throughout the EIA process
- Develop more stringent legislation regarding proponent responsibilities for implementing environmental management plans, including the definition of non-compliance penalties
- Enhance capacity for monitoring and enforcement, and create a climate of objective law enforcement, including unbiased imposition of penalties for non-compliance

**Conclusions**

Mozambique continues to enjoy increasing economic growth and strong interest from a broad spectrum of national and foreign investors. It is against this background, and through the far-sightedness of a Government emerging from a relatively recent turbulent history, that the formal EIA process initially developed, culminating in the gazetting of the comprehensive EIA Regulations in 1998. A key motivating factor was the recognition that EIA legislation was required to ensure sustainable growth and to integrate environmental considerations in the planning of the largest development projects. The Directorate for EIA now has the mandate to implement and revise this legislation, thus ensuring that EIA is a cornerstone of development projects and programmes throughout the country.

The key challenge for the future is to more clearly define roles and responsibilities in the EIA process, in particular the sharing of responsibilities between regional and national authorities and between different sector authorities at national level. This is an exercise in organisation and coordination that can only be achieved by developing national capacity to —
- execute independent EIA reviews based on sound and up-to-date scientific and technical knowledge
- implement advanced research on specific EIA methods applied to the various dimensions of EIA studies of development projects: biophysical, economic, social, technological and risk assessment
- ensure and oversee full public participation at all stages of the EIA process
- develop an adequate scientific information database, nationally and internationally interlinked with centres of information of relevance to EIA studies, and
- provide professional training programs on EIA techniques to expand the critical mass of national EIA practitioners in Mozambique.
Appendix 1: Case studies

The Mozambique Aluminium Smelter Project

- The Mozambique Aluminium Smelter (MOZAL) Project is one of the largest industrial development projects in sub-Saharan Africa, with an initial investment of US$1.3 billion and current production of 245,000 t per annum.
- The Project is located on the outskirts of Maputo adjacent to the Matola River which discharges into Maputo Bay, a major prawn fishing ground.
- Three potential sites were assessed as alternatives during a feasibility study carried out in 1996. The preferred site, selected on environmental and access criteria, was subject to a detailed EIA (environmental impact assessment) during 1996 and 1997.
- Public participation related to the EIA was carried out through a series of stakeholder workshops in Maputo.

Project implementation required the relocation of 74 homesteads and the loss of 99 small-scale farms and 74 graves.

The major potential impacts include the following:

- Fluoride contamination of storm-water from atmospheric emissions
- Contamination from spent pot linings impregnated with cyanides,
- Social impacts arising from resettlement.

The EIA includes an environmental management plan (EMP) to deal with, inter alia, the first two issues. A detailed resettlement action plan (RAP) to deal with social impacts was formulated apart from the EIA. The RAP was developed in close collaboration with all affected households. The total cost of resettlement and compensation was in the order of US$600,000. The resettled households continue to receive after-care support and are subject to regular monitoring and evaluation.

A full-time health, safety and environmental team have been contracted by MOZAL to oversee the EMP. Regular environmental audits (water, atmospheric and noise) are carried out by independent consultants to ensure that pollution levels in the receiving environment are within specified limits.

The MOZAL Project is the first industrial mega-project in Mozambique, making a significant contribution to the country’s gross national product. Although the EIA pre-dates the EIA Regulations, environmental and social safeguards have been fully incorporated into the construction and operational phases of the project and environmental impacts are at an acceptable level.
The Gorongosa–Caia Road Rehabilitation Project

- Currently the largest road project in Mozambique (US$40 million, funded by the United States Agency for International Development, USAID).
- A 240-km long road linking the south of the country with the north.
- Road rehabilitation will mitigate the impact of isolation on development in the north.
- The alignment passes close to Mozambique’s flagship conservation area, Gorongosa National Park.
- The anticipated completion date is May 2003.

USAID-funded development projects of this scale require an EIA (environmental impact assessment). An EIA was carried out in 1996, prior to the passing of the Framework Environmental Act (No. 20 of 1997) and the EIA Regulations (Decree No. 76 of 1998). Nevertheless, the EIA Report was submitted to the newly created Ministério para a Coordenação da Acção Ambiental (MICOA). The EIA evaluated three alternative routes, for which the selection criteria were --

- the presence or absence of an existing alignment
- predicted hydrological impacts
- proximity to sensitive habitats
- proximity to intact high forest, and
- erosion potential.

The tender and contract documents for road construction provide specifications for contractor obligations regarding environmental protection and include guidelines for borrow pit rehabilitation.

Independent consultants have carried out regular environmental audits in collaboration with the National Roads Administration (Administração Nacional de Estradas). This process raised awareness of EIA and environmental issues and contributed towards the creation of a Social Affairs and Environmental Unit within the ANE as well as capacity-building for selected ANE staff.

The main environmental problems identified during the environment audits include --

- inadequate waste management (e.g. disposal of used engine oil, non-hazardous waste -- especially rubber tyres and scrap metal, and household waste)
- inadequate health education programmes regarding the spread of sexually transmitted diseases and HIV/AIDS
- issues related to workers’ health and safety especially related to dust pollution in the quarry site
- inadequate opening and operation of some borrow pits
- deposition of building residues in some river systems, and
- increased logging as access improves.

Practical mitigation measures were recommended in a series of environmental reports that were submitted to the consulting engineers. Most of the recommended mitigating measures have now been implemented. This is believed to be the first case where regular environmental audits and adaptive management have realised environmental protection during construction of a large development project in Mozambique. On completion of the road, USAID will commission a final environmental audit to ensure that all mitigation measures have been fully implemented.
## Appendix 2: Useful contacts

### Key government officials dealing with EIA

<table>
<thead>
<tr>
<th>Contact</th>
<th>Government agency</th>
<th>Address</th>
<th>Telephone</th>
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<td><strong>Ministério para a Coordenação da Acção Ambiental</strong></td>
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<td>(+258–1) 322525</td>
<td>(+258–1) 322459</td>
<td><a href="mailto:cpi@teledata.mz">cpi@teledata.mz</a></td>
</tr>
<tr>
<td><strong>Conselho Municipal de Cidade de Maputo</strong></td>
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<tr>
<td>Vereador Zacarias Cossa</td>
<td>Vereação do Meio Ambiente do Conselho Municipal</td>
<td>Praça. Da Independência, Maputo</td>
<td>(+258–1) 320267</td>
<td>(+258–1) 320053</td>
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</table>
Key NGOs and community-based organisations (CBOs) dealing with EIA

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Address</th>
<th>Telephone</th>
<th>Fax</th>
<th>e-mail</th>
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<tbody>
<tr>
<td>Fórum Natureza em Perigo</td>
<td>Mr António Reina</td>
<td>Praçeta Cruz do Oriente 23,</td>
<td>(+258–1)</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Maputo</td>
<td>308924</td>
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</tr>
<tr>
<td>Fundo Empresarial do Meio</td>
<td>Dr Carlota Quilambo</td>
<td>Av. 25 de Setembro 1123,</td>
<td>(+258–1)</td>
<td>(+258–1)</td>
<td></td>
</tr>
<tr>
<td>Ambiente</td>
<td>Mr Abílio Inguane</td>
<td>11º Andar, Prédio Cardoso,</td>
<td>314011/12</td>
<td>314013</td>
<td>Carlota.quilambo@tv cabo.co.mz</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td>Abilio.inguane@tv cabo.co.mz</td>
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<tr>
<td>Livango</td>
<td>Ms Anabela Lemos</td>
<td>Praçeta Cruz do Oriente 23,</td>
<td>(+258–82)</td>
<td>(+258–1)</td>
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<tr>
<td></td>
<td></td>
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<td>381604</td>
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<td><a href="mailto:livango@fnp.org.mz">livango@fnp.org.mz</a></td>
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<tr>
<td>Secretariado para E. Africa Coastal Areas Management (SEACAM)</td>
<td>Dr Custódio Voabil</td>
<td>Av. Amílcar Cabral CP 4220,</td>
<td>(+258–1)</td>
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<td>300641/2</td>
<td>300638</td>
<td><a href="mailto:Seacam@virconn.com">Seacam@virconn.com</a></td>
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<tr>
<td>União Internacional para a Conservação da Natureza</td>
<td>Mr Abel Otacala</td>
<td>Av. Armando Tivane 1384,</td>
<td>(+258–1)</td>
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<tr>
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<td>490059</td>
<td>490812</td>
<td><a href="mailto:uicn@sortmoz.com">uicn@sortmoz.com</a></td>
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<tr>
<td>Visão Mundial</td>
<td>Dr David Damiral</td>
<td>Av. Agostinho Neto,</td>
<td>(+258–1)</td>
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<td>350619</td>
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<tr>
<td>World Wildlife Fund</td>
<td>Dr Helena Motta</td>
<td>Rua Reinaldo Ferreira 72,</td>
<td>(+258–1)</td>
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<td>301186</td>
<td>312430</td>
<td><a href="mailto:hmotta@wwf.org.mz">hmotta@wwf.org.mz</a></td>
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</table>

Key academic institutions offering courses in EIA

<table>
<thead>
<tr>
<th>Institution</th>
<th>Course offered</th>
<th>Address</th>
<th>Telephone</th>
<th>Fax</th>
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<tbody>
<tr>
<td>Instituto Superior Politécnico Universitário</td>
<td>Do not currently offer a course that deals with EIAs. However, with a new</td>
<td>Av. Álbert Lithuli 438,</td>
<td>(+258–1)</td>
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<tr>
<td></td>
<td>education reform soon to be implemented, courses like Civil Engineering will</td>
<td>Maputo</td>
<td>305953</td>
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<td></td>
<td>include a section on EIAs</td>
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<tr>
<td>Universidade Eduardo Mondlane, Faculty of</td>
<td>Offers ‘Environmental Analyses’ for first- and second-year students; includes</td>
<td>Av. Murtires da Machava 181,</td>
<td>(+258–1)</td>
<td>(+258–1)</td>
<td></td>
</tr>
<tr>
<td>Architecture</td>
<td>information about environmental planning</td>
<td>Maputo</td>
<td>490111</td>
<td>492191</td>
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<tr>
<td>Universidade Eduardo Mondlane, Faculty of Sciences</td>
<td>Department of Biological Sciences: Offers ‘Conservation and management of</td>
<td>Campo Universitário,</td>
<td>(+258–1)</td>
<td>(+258–1)</td>
<td></td>
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<tr>
<td></td>
<td>natural resources; a one-semester course for fifth-year students; includes a    Avenida Julius Nyerere,</td>
<td>Maputo</td>
<td>490009</td>
<td>492176</td>
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<tr>
<td></td>
<td>one-week component on EIA procedures in Mozambique</td>
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<tr>
<td></td>
<td>Department of Geology: Offers a one-semester course on environmental geology;</td>
<td>Campo Universitário,</td>
<td>(+258–1)</td>
<td>(+258–1)</td>
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<tr>
<td></td>
<td>includes a module on EIAs in relation to mining activities</td>
<td>Avenida Julius Nyerere,</td>
<td>497040</td>
<td>491912</td>
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<tr>
<td>Universidade Pedagógica, Faculty of Social</td>
<td>The History and Geography courses have a component that deals with</td>
<td>R Comte Augusto Cardoso 135,</td>
<td>(+258–1)</td>
<td>(+258–1)</td>
<td></td>
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<tr>
<td>Sciences</td>
<td>environmental problems</td>
<td>Maputo</td>
<td>306711</td>
<td>422133</td>
<td><a href="mailto:zuyyaombe@hotmail.com">zuyyaombe@hotmail.com</a></td>
</tr>
</tbody>
</table>

Useful websites

- Mozambique home page: www.mozambique.mz/economia/invopt/fisherie.htm
- World Health Organisation: www.who.int/reproductive-health/mps/Mozambique_country_report.html
- World Bank: www.worldbank.org
- Programme of Environmental Information Systems in Sub-Saharan Africa: http://easd.org.za/Eis/repts/Mozambique/mozeis1.htm
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References and other key publications


IME Consult. 2000. Joint evaluation of the implementation of the National Environmental Management Programme (NEMP) in Mozambique.


MICOA (Ministério para a Coordenção da Acção Ambiental). 2002. ‘Directiva ambiental para o sector de estradas (Final Version)’. Maputo: MICOA.


