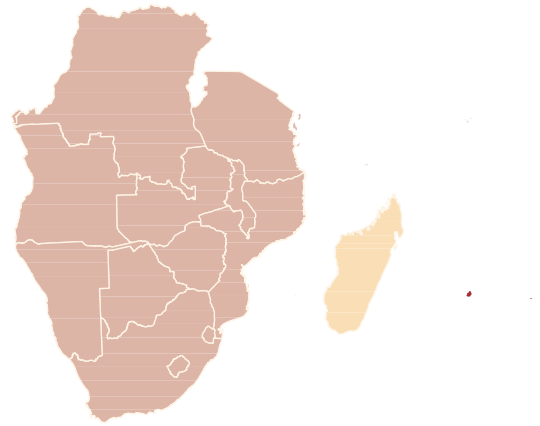


Pierre de Boucherville Baissac



Mauritius

Contents

National vision

Biophysical profile

Socio-economic profile.

Legal profile

Institutional profile

EIA practice

Key successes and challenges

Appendix 1: Case study

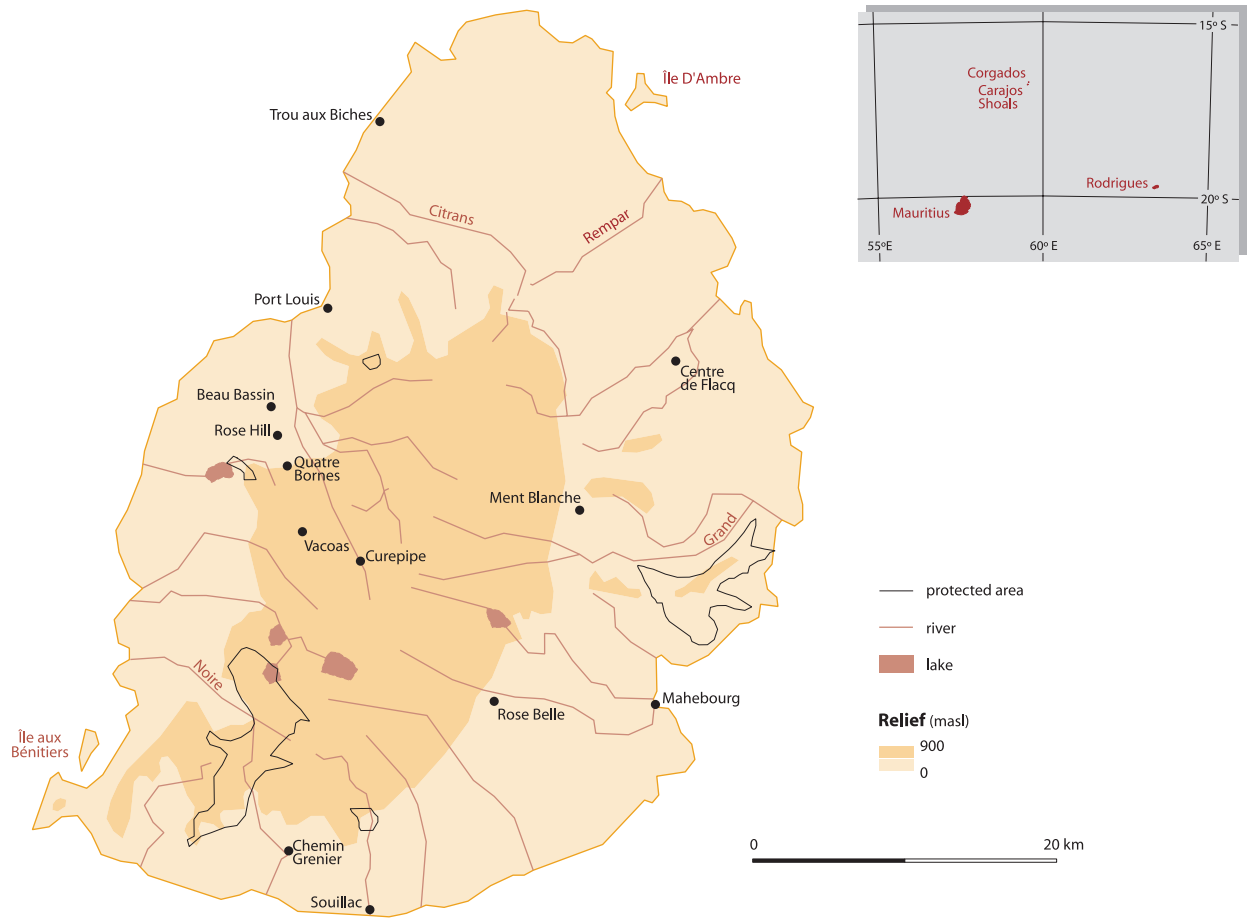
Hotel project on Ile Des Deux Cocos, Blue Bay

Appendix 2: Useful contacts

References and other key publications

Acknowledgements

COUNTRY REPORTS



David Steele (Photo Access)

Aerial view of Le Coco Beach, a popular tourist destination.

National vision

In 1990 the Government of Mauritius approved the National Environmental Policy (Ministry of Housing, Land and the Environment 1990) which aims to foster harmony between quality of life, environmental protection and sustainable development for present and future generations. The Government recognises that a high-quality environment is essential for the sustained development of the country and for the health and welfare of its people and this principle has been the driving force behind several institutional, legislative and policy changes.

The Prime Minister, Sir Aneerood Jugnauth, reaffirmed the commitment in his foreword to the *State of the environment in Mauritius* (Ministry of Environment and Quality of Life 1991), prepared for the 1992 United Nations Conference on Environment and Development in Rio:

My government is committed: (a) to care for the natural environment; (b) to protect the health and welfare of Mauritians; and (c) to preserve 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.

More recently, Vision 2020: The National Long-Term Perspective Study (Ministry of Economic Development and Regional Cooperation 1997) further strengthens 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.

Biophysical profile

Biophysical characteristics

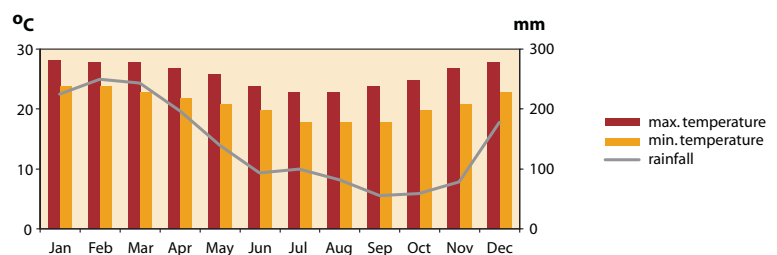
The State of Mauritius consists of the islands of Mauritius, Rodrigues, Agalega and the St Brandon atoll and many smaller islands. The main islands of Mauritius and Rodrigues are of volcanic origin.

The total land area is 2,045 km², with Mauritius and Rodrigues accounting for 1,865 km² and 110 km², respectively. The island of Mauritius has a coastline of 322 km and is almost completely encircled by 150 km of coral reefs, which enclose a lagoon of 243 km². In 1978, Mauritius proclaimed a 200 nautical mile exclusive economic zone extending over an area of 1.7 million km².

The climate is subtropical and is characterised by a hot, humid summer between November and April and a cooler and drier winter period. Average summer midday temperatures are 25 °C on the central plateau and 30 °C on the coast, while average midday winter temperatures in those areas are 19 °C and 24 °C, respectively.

Total annual rainfall is about 2,100 mm, with about half of this falling between January and March. The rest of the precipitation is spread throughout the year. The cyclone season, between December and April, regularly brings cyclones to the vicinity of Mauritius and Rodrigues. Though potentially very destructive, the cyclones are very important as they bring rain.

Figure 1: Average temperatures and rainfall at Port Louis



Source: Washington Post (2002).

Of the total land area, 45% is devoted to agriculture, 31% to forests or natural green areas and the remainder is either built up or unusable, and includes reservoirs, swamps, rock and roads.

Environmental limitations

There are no significant environmental limitations such as floods or drought to take into account, with the exception of the possible high rainfall that may occur during a cyclone. This is an uncertain variable which may raise the water table in certain areas.

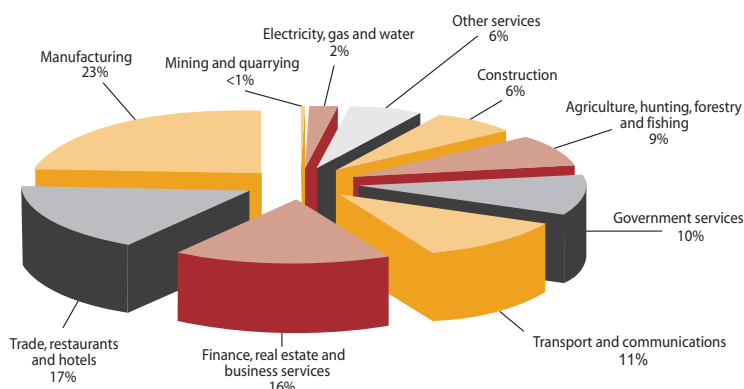


The coastline is vulnerable to erosion and rising sea level.

Table 1: Economic indicators, 1999–2001

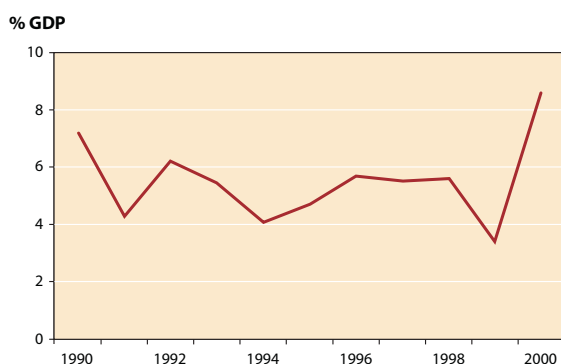
Indicator	1999	2000	2001
Inflation rate (%)	6.9	4.2	5.4
GDP growth rate (%)	2.2	8.9	5.8
GDP factor cost (US\$)	3,122	3,476	3,908
GNP per capita at market prices (US\$)	2,656	2,928	3,257
Savings ratio (%)	26.0	25.6	27.5

Figure 2: Contribution (%) of each sector to GDP, 1997



Source: Europa Publications (1999).

Figure 3: Economic growth rate, 1990–2000



Source: World Bank Group (2002).

Socio-economic profile

The economy and its activities

The Mauritian economy is among the strongest in sub-Saharan Africa, with a gross domestic product (GDP) in 2000 of US\$4.6 billion and a per-capita income close to US\$3,900. The economy is diverse (see Figure 2) and has sustained a high annual average growth of 6% for the last two decades. While GDP grew by 8.9% in 2000 (Table 1), the average annual growth in the medium term is expected to level out at about 5%. Mauritius is rated as having one of the most competitive economies in Africa.

At the dawn of Independence in 1968, the economy was stagnating and dominated by the sugar industry, which accounting for about 34% of gross national product (GNP), contributed to more than 95% of total export earnings and over 50% of total employment. Four decades later, the Mauritian economy has evolved considerably. With annual rates of growth of over 5%, and an annual per-capita income nearing US\$4,000, Mauritius has graduated to an upper middle-income country.

Mauritius has also achieved a fair degree of diversification in its economic activities. Agriculture, manufacturing and tourism have emerged as the three pillars of the economy. Although sugar makes up only 7% of the GDP, it still represents about 14% of total exports. Manufacturing is now the major exporter and contribute about 24% to the GDP. The export processing zone industries of the manufacturing sector, alone, now contributes about 75% of the total exports, although employment has declined in this sector due to difficult times in the textile industry. Mauritius is becoming a reputable offshore and finance centre, and a regional hub, and the financial and services sector currently represents about 16% of GDP. This is expected to expand in the future due to the Government's aggressive policy to develop computer and information technology and to transform Mauritius into a high-tech, high-income knowledge and service economy. There is an emphasis on increasing competitiveness and productivity, and enhancing social development and social cohesion while preserving the environment.

Employment

Until the mid-1970s, the economy was entirely dependent on the sugar industry, which absorbed much of the labour force. From the mid-1980s, rapid economic growth and employment creation in export-oriented sectors, agriculture, manufacturing and tourism have increased employment and diversified its sources.

Mauritius reduced its high unemployment rate (20.3% in 1982) to 2.7% in 1991 by establishing a labour-intensive export-processing zone, which created more than 90,000 jobs. Employment creation decelerated in the 1990s to 2% per annum (from more than 5% in the 1980s), causing the unemployment rate to rise to 5.8% in 1996 and to 9.2% in 2001, with higher rates for females than males. This recent rising

trend in unemployment is a matter of concern and is attributed to a mismatch in labour skills, the substitution of capital for labour, and difficulties in the sugar and textiles industries.

From 1995–2000, the share of employment by large enterprises (i.e. those employing more than 10 people) has fallen from 63% to 59%, while the share of small, medium and other enterprises rose from 37% to 41%. A major change in the labour market has been the increasing involvement of women in the labour force (from 28% in 1983 to around 40% in 2000). This structural development has had an impact on the unemployment rate: with more women entering the labour market, female unemployment increased considerably from 12,900 in 1996 to 17,700 in 2001, representing a female unemployment rate of 10.1% while the male unemployment rate almost doubled from 4.6% in 1996 to 8.8% in 2001.

Population and quality of life

Mauritius is a multicultural society comprising people of European, African, Indian and Chinese origin. In 1996, the population was estimated at 1.13 million, growing at approximately 1.1% annually. It is anticipated that the total population will rise to 1.37 million by 2020 at an annual average growth of 0.8%. Population density is already high, with over 600 people per km². Therefore, even the predicted modest growth will increase pressure on land use and allocation.

While the Government has vigorously pursued economic growth in the last 30 years since Independence, it has also placed considerable emphasis on improving the quality of life of all Mauritians. Success in this regard is demonstrated by high human development index (HDI) and human poverty index (HPI) values of 0.825 and 12.5%, respectively (GM 1999). Life expectancy at birth in 1999 was 70.8 years and infant mortality was 18.8 per 1,000 live births. Primary school enrolment was 97% and secondary school enrolment was 68%. Literacy for adults (above 15 years of age) is about 84%.

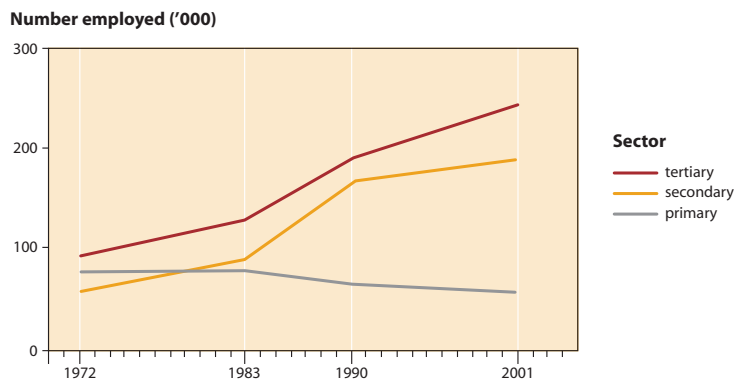
Legal profile

Policy

There now exists a structured economic and environmental policy framework as set out in a number of documents, most notably the White Paper on environmental policy (Ministry of Housing, Land, and the Environment 1990) and *Vision 2020* (Ministry of Economic Development and Regional Cooperation 1997). Both documents anticipate movement towards environmentally and socially sustainable development. The challenge for the Government is to avoid constraining economic growth whilst fulfilling expectations for quality of life and safeguarding the unique natural and cultural assets of Mauritius.

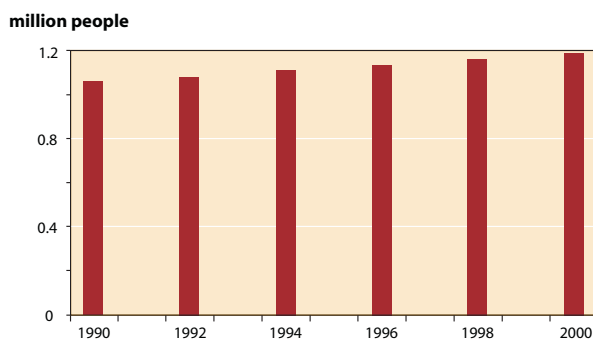
A *National environment action plan for Mauritius* (NEAP I) was prepared for 1990–2000 (World Bank 1990),

Figure 4: Employment by sector, 1972–2001



Source: Central Statistics Office, Mauritius.

Figure 5: Population, 1990–2000



Source: World Bank Group (2002).

followed by another, NEAP II, (GM 1999), which sets out the national environment strategy for the period 2000–2010. This has led to new environmental measures that include the strengthening of the Ministry of the Environment, and replacing the Environment Protection Act (EPA), No. 34 of 1991 with the strengthened Environment Protection Act, No. 19 of 2002, and improved enforcement of the EPA through the creation of a *Police de l'Environnement*.

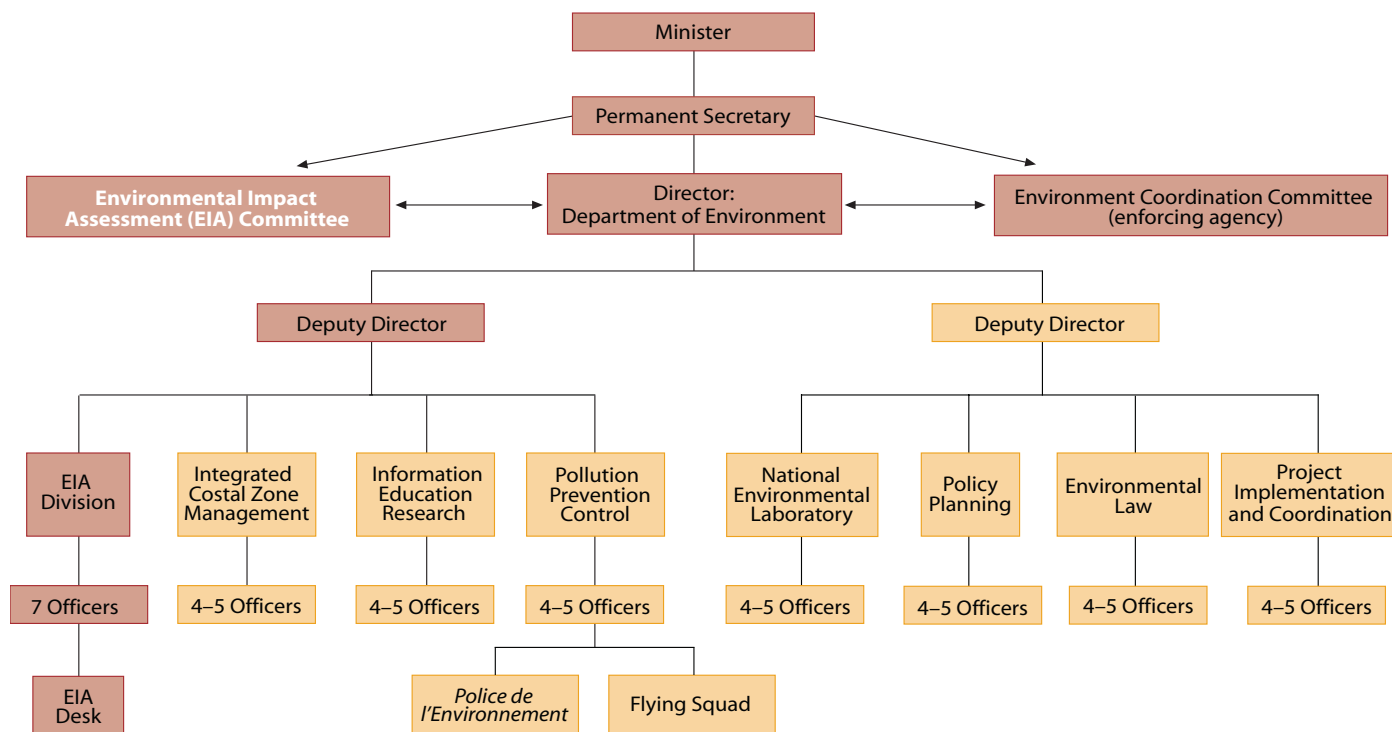
General environmental legislation

Mauritius has several laws relating to the management of the environment (Table 2). All the laws are based on either English Common Law or French Civil Law. Although the Constitution of Mauritius (GM 1968) 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. There is, however, no jurisprudence on which the Supreme Court can base its decisions and take action.

Existing environmental legislation has several inadequacies. First, the legal framework is fragmented, with some provisions dispersed across a number of different acts and regulations. This often gives rise to jurisdictional overlaps because powers of lawmaking and enforcement are sometimes

Table 2: Current environmental laws and regulations relating to EIA

Act or policy	Key elements	Implementing authority
Building Act of 1919	<ul style="list-style-type: none"> • Provisions regarding building permits • Provisions regarding noise control 	Ministry of Public Infrastructure
Public Health Act of 1925	The Public Health (Disposal of Refuse) Regulations of 1984 address the disposal of hazardous waste, dumping of refuse in landfills, disposal of ash in the burning of bagasse in sugar mills and/or power plants	Ministry of Health and Quality of Life
Noise Prevention Act of 1938	Various regulations made by local authorities for the control of noise	Local Authorities
Town and Country Planning Act, No. 6 of 1954	Provisions regarding the drafting of outline schemes; provides for the orderly and progressive development of land in towns and other areas, whether urban or rural	Ministry of Housing and Lands
Central Water Authority Act, No. 20 of 1971, amended to Act 4 of 1985	Water Supply for Domestic Purposes Regulation, 1992 of Act 4, 1985	Ministry of Housing
Pesticides Control Act of 1972	Pesticides Control (Restricted Pesticides) Regulation 1982 of Pesticides Control Act of 1972	Ministry of Health and Quality of Life
Local Government Act of 1989	<ul style="list-style-type: none"> • Solid waste (other than hazardous, clinical and pharmaceutical waste) management and disposal thereof • Disposal of these wastes, including sorting, carriage, transportation, treatment, storage and tipping above ground or underground, and the transformation operations necessary for its recovery, reuse or recycling. • Control of pollution causing a public or private nuisance 	Ministry of Local Government or local authorities
Occupational Safety, Health and Welfare Act, No. 34 of 1988	Control of noise pollution within standards	Ministry of Labour and Industrial Relations
Wildlife and National Parks Act, No. 13 of 1993	Creation of Black River Gorges National Park; provision for the creation of other protected areas and regulations for the protection of Mauritian native flora and fauna, and the creation of the National Parks and Conservation Service	Ministry of Agriculture
Environment Protection (Drinking Water Standards) Regulation(s), Government Notice No. 55 of 1996	Regulation of bacterial, pesticide, physical and chemical content of drinking water	Ministry of Environment
Environment Protection (Effluent Limitations for the Sugar Industries) Regulation of 1997	Regulation of sugar industry effluent discharged into rivers, canals and the sea	Ministry of Environment
Environment Standards for Noise Regulation of 1997	Regulation of noise emissions	Ministry of Environment
Environment Protection (Inland Surface Water Standards) Guidelines of 1998	Regulation of effluent discharged into inland waters	Ministry of Environment
Environment Protection (Standards for Air) Regulation of 1996	Regulation of effluent discharged into the air	Ministry of Environment
Illegal Discharge of Effluents, Government Notice No. 48 of 2001		Waste Water Management Authority
Environment Protection Act, No. 19 of 2002		Ministry of Environment
Hazardous Waste Regulations of 2002	Regulation of hazardous wastes not covered by the Pesticides Control Act of 1972 and the Public Health Act of 1925	Ministry of Environment

Figure 6: Structure of the Ministry of Environment

conferred on different authorities in respect of the same matters. Second, most of the existing environmental laws are inadequately enforced, mainly due to a lack of resources and staff capacity in the relevant government departments, a lack of awareness of the laws themselves, overlapping responsibility for enforcement, and legal limitations on the admissibility of the evidence in the court proceedings. Third, much of the legislation is outdated and needs to be revised and consolidated. Finally, the relevant laws are not easily accessible.

There is, therefore, considerable scope for greater transparency, accountability and public participation in the implementation and enforcement of environmental laws, particularly in respect of environmental impact assessment (EIA).

Environment Protection Act

The Environment Protection Act, No. 19 of 2002, which repeals and replaces the EPA 1991, provides for a licensing regime which requires either preliminary environmental approval or an EIA licence for various activities – ranging from minor activities to strategic developments.

The Act identifies (in Part A of Schedule 1) categories of minor activities – for example, common undertakings such as poultry-rearing and land-parcelling – that require a preliminary environmental report, which is a simplified, short form of an EIA. Major undertakings that may impact significantly on the environment (specified in Part B of Schedule 1) require a full impact assessment and an EIA

licence. 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 preliminary environmental report or an application for an EIA licence.

The rapid procedure provided for Category A projects by the Act is based on automatic project approval, which 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 might only be approved under conditions that the Minister of Environment deems appropriate and he might request a full EIA to be carried out.

Part IV of the EPA provides guidelines on the content of an EIA report. Part VI of the EPA provides for the issuing of standards and guidelines relating to water, effluents, air, noise, waste, pesticides, odour, radioactive emissions, and built-up environments and landscape. The Act also introduces strict time limits to the different stages in processing an application for an EIA licence, and clarifies the position regarding the provision for exempt activities. This provision allows the Minister to request a proponent to submit an EIA in respect of any activity that, although unlisted, is likely to have major impacts 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.

The concept of strategic environmental assessments (SEAs) has been introduced in the Act though it has only been alluded



Sandra and Willie Olivier

In the past, the Mauritian economy was heavily dependent on sugar production. Today, manufacturing and tourism have become relatively more important.

to in Schedule 1 of the Act. No further mention or definition of SEA is made in the body of the Act, leaving considerable room for interpretation. Schedule 1 of the Act lists activities which require an SEA. 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 concern that SEAs are not defined, nor is their role and function stated; furthermore, no information is given on who should conduct them and no specifications are provided on their legal applications.

Responsibility for the enforcement of the EPA is dispersed across a number of different ministries which have the potential to be 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.



Chris Tomlinson (AP Photo)

A daughter helps her mother surf the Internet inside the Mauritius National Computer Board's cyber-bus in Port Louis. The cyber-bus is part of the Computer Board's programme to develop a computer culture in the Indian Ocean island nation. The Government hopes to attract investment from foreign information technology companies.

Institutional profile

The key institution involved in EIA is the Ministry of the Environment. This Ministry has established an EIA Committee¹ to examine applications for an EIA licence referred to it after review by the Director of Environment. An Environment Coordination Committee², which advises the Minister on any matter relating to the protection and management of the environment, including national environmental standards, the process of application for the EIA licence and the review of the EIA, is constituted under the EPA as well. The Environment Coordination Committee is also the agency responsible for enforcing compliance with EIA legislation.

The EIA process itself requires a strong level of interministerial collaboration and information-sharing within the committees and staff involved in the EIA process.

The EIA process

The EIA process, as legislated in the EPA, requires that –

- at the inception stage, i.e. at least three months before submitting the application for an EIA licence, the project developer must inform the Director of the Department of Environment through an outline of the proposed undertaking, including the location, nature and scope of the project
- a copy of the project document is sent to all ministries likely to be involved in evaluating the project
- the Ministry of Environment 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 Department of Environment and made available for public inspection
- the Ministry requests any additional information from the developer, if necessary, and
- the Director of Environment reviews the application and makes a recommendation to the EIA Committee, which reviews the documents and advises the Minister on whether or not to grant an EIA licence and on the conditions to impose.

Once the Minister of Environment receives all the relevant information from the EIA Committee and from the Environment Coordination Committee, the Minister can take the decision to grant the EIA licence. However, an appeal can be lodged against any of the Minister's decisions relating to the

¹ Members are the Permanent Secretary of the Ministry of Environment (Chairperson), Director of the Department of Environment (no vote) and the Permanent Secretaries or their representatives of the Ministries of Agriculture, of Fisheries and Marine Resources, of Health, of Industry, of Local Government, and of Public Infrastructure, and representatives of the Town and Country Planning, Water Resources and Waste Water Management Authorities.

² Members are the Permanent Secretary of the Ministry of Environment (Chairperson), the Director (Vice-Chairperson), the Permanent Secretaries, or the Executive Directors or their representatives from the enforcing agencies, the Environmental Liaison Officer, and other such public officers, or officers of statutory bodies, designated by the Minister.

granting or refusal of a licence, the conditions relating to these, and the enforcement of preliminary environmental reports and EIAs with the Environment Appeal Tribunal (Figure 7). 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.

In total, 45 cases have been appealed through the Tribunal from its inception in 1994 to December 2000. The most notable case of ‘environmental principles’ being defended was that involving Tokay Island (see Appendix 1).

EIA practice

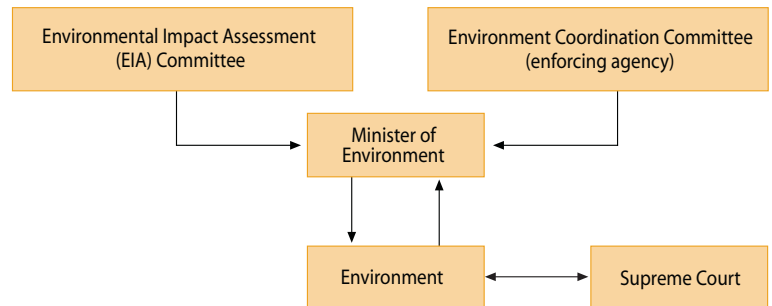
Use of EIA

Between June 1993 and December 2000, over 800 applications for EIA permits were submitted, of which 79.5% were approved (Table 3). As Figure 8 shows, the applications are mostly for poultry farming and associated operations and the subdivision of land. Only new activities are subject to EIA, while existing activities continue to operate without being subject to equivalent controls. Additionally, the list of activities subject to EIA is not comprehensive enough to cover all potentially environmentally harmful activities.

However, the Director of the Environment Department 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 – also if there have been substantial changes or modifications to the enterprise, or in the manner in which it is being operated

A particular problem with the current process is that, although it is intended to take 45 days, the average processing time is 90 days. In some cases it has taken more than a year for

Figure 7: The appeal process



developers to obtain the EIA certificate and this delay is off-putting to investors. The developer always funds the EIA.

Although strong enforcement powers are given to the Director of the Department of Environment, in cases of breach of environmental laws, standards have only been promulgated in a few limited areas, and consequently many harmful practices cannot be controlled. Additionally, some of the environmental standards that have been developed are likely to be difficult to enforce due to overlapping responsibilities with other ministries and enforcing agencies.

The Ministry of Environment is in the process of reviewing the following draft regulations and standards:

- Effluent discharge: Establishing standards for effluent discharge into the ocean and other water bodies, and the use of effluent in irrigation, as well as the requirements for a discharge permit and the installation and operation of applicable pollution control technologies.
- Waste audit regulations: These will provide for an inventory of waste, the development and implementation of an environmental management plan, and establish the different criteria and qualifications required by different industrial enterprises.

Guidelines for environmental quality need to be set realistically and should be linked to enforceable standards. There is no comprehensive licensing system to control pollution from land-

Figure 8: EIA applications, 1993–2000

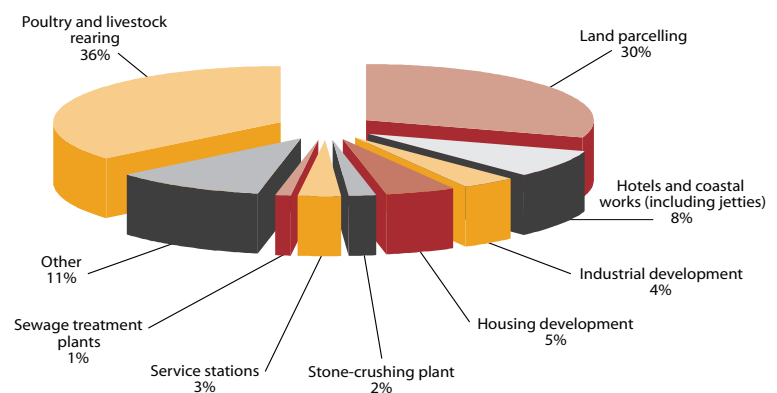


Table 3: Status of EIA applications (Jun 1993–Dec 2000)

Status	No.	%
Applications received	832	100.0
Licences granted	661	79.5
Applications not approved	95	11.4
Applications exempted	7	0.8
Applications in abeyance	12	1.4
Applications withdrawn	13	1.6
Applications under consideration	44	5.3

based sources in a holistic, coordinated and integrated manner and the enforcement powers under Part XI of the EPA occur too late in the process to prevent harm.

Permits required

Development permits are given by local authorities under the guidance of the National Physical Development Plan and outline schemes. However, a developer also needs to secure a number of other permits, including an EIA licence, for activities listed in Schedule 1 of the EPA (Table 4). This can result in the same information being considered and the same issues being assessed and adjudicated twice.

Although there is some duplication of procedure, the Ministry of Environment 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, is based on the Outline Schemes,³ site location and on building plans with no in-depth consideration being given to the environmental impacts associated with the development. The EIA Division uses a general guideline for EIAs and sectoral checklists to review EIAs in the different sectors: land parcelling, coastal development, housing, poultry and livestock rearing, industrial development, etc.

The Town and Country Planning Division of the Ministry of Housing and Lands is responsible for land-use planning, including policy formulation for land development. Being concerned with the management of land resources, the Division ensures the judicious distribution and allocation of land among the various uses which often compete for this scarce resource. The Division is represented on the Environmental Impact Assessment Committee and is responsible for submitting recommendations with respect to planning on EIA applications received by the Ministry of Environment.

The local authorities are empowered by the Town and Country Act of 1954 to grant development permits, which are required for the development of land.⁴ The law also makes provision for potential developers to appeal against decisions made by the local authorities through the Town and Country Planning Board.

Table 4: Development permits and issuing authority

Type of permit	Issuing authority
EIA licence	Ministry of Environment
Development permit	Local Authority and/or Ministry of Public Infrastructure
Trade licence	Local Authority
Permit to operate electric motor (industrial)	Ministry of Public Infrastructure
Land conversion permit	Ministry of Agriculture
Zoning/re-zoning certificate	Town and Country Planning Board
Pioneer status enterprise certificate	Ministry of Industry
Hotel development certificate	Ministry of Tourism
Pleasure craft permit	Ministry of Tourism

Table 5: Staff in the EIA Division

Position	Number
Head of Division	1
Professional and technical officers	6
Administrators	4

Capacity

Table 5 shows the current staffing situation in the EIA Division. There is a real need for additional human resources with proper training and skills. The current training is *ad hoc*.

The Head of Division and all professional and technical officers have at least a first degree, while some have, or are in the process of obtaining, postgraduate diplomas or certificates. To work effectively, particularly with the increased workload that the Environment Protection Act of 2002 will create, it will be necessary to at least double the staff.

Since the EIA Division is supported by the various laboratories and ministries responsible for the different components of the EIA it has only limited need for equipment. Laboratory support is adequate, but the EIA Division is understaffed and requires at least 12 technicians. Staff require formal training to enable them to, for example, draft terms of reference and direct the contents of EIAs, develop sectoral guidelines, review EIA documents, prepare SEAs and undertake environmental monitoring and management.

The EIA Division is also involved in other tasks related to environmental issues. An example is providing assistance to local authorities in issuing development permits for projects which are not listed in the First Schedule of the EPA – and, therefore, do not require an EIA, but which are associated with environmental nuisances – by assessing the projects and reviewing the related environmental issues.

The staffing situation is more or less stable. However, the quality of staff recruited is not always optimal as there are no job descriptions and criteria. There is a tendency for staff to leave the Division because of the very demanding nature of the work and the need for adequate expertise and qualifications in the field in order to work effectively.

The EIA Division is funded entirely through the government budget and does not raise any revenue by, for example, charging for the granting of EIA licences.

There is a general lack of resources, including properly trained officials, to consistently and effectively carry out the functions assigned to the enforcement authorities. It is generally felt in government circles and in the Ministry of Environment that the EIA administration cannot be decentralised or outsourced. However, in order to enhance transparency the NEAP II (GM 1999) recommended that EIA

³ Outline Schemes provide the local authorities with a guide for implementing the strategies and policies of the National Physical Development Plan (NPDP) – a strategic plan which defines the broad objectives, strategies and policies for the physical development of the country – at the regional and local levels.

⁴ *Development* is defined as building operations, change in the use of land or buildings, or the subdivision of land.

reports be made freely available to the public in printed form or on websites.

Training

The University of Mauritius offers courses at various levels for EIA qualifications. They range from certificates and diplomas to Masters of Science with different orientations, namely governance, technical know-how, coastal zone management, wildlife and wetlands. In the last five years about 30 students have taken MSc courses, although it is not known what these graduates are now doing or where they are employed.

Accreditation of consultants

A particular weakness in the current EIA process is that there is no provision in the law for the accreditation and qualification of EIA practitioners, except as may be decided on a case-by-case basis (Part IV 15(4) of EPA 2002). No register of environmental consultants entitled to prepare an EIA exists, making it possible for any company or individual to undertake a study. This can lead to poor reporting or certain forms of abuse. At present a wide range of people and firms undertake EIAs and although they are mostly Mauritian, some expatriate consultants are also involved.

The Environment Protection Amendment Bill proposed to rectify the situation through the following clauses:

No person other than an environment consultant shall prepare an EIA for a proponent or offer his services to him as being qualified to prepare an EIA.

and

The Director shall keep a register of environment consultants open for inspection to the public in which shall be entered –

- *the names and address of the person, firm and bodies corporate proposing their services for the preparation of EIA reports, and*
- *their professional qualification and experience.*

These clauses were, however, not included in the EPA 2002.

Preparation of EIAs

Another serious weakness of the process is that, although EIAs should enclose the details of how they were conducted, no norms, guidelines or standard codes of practice for their preparation exist in Mauritius. This makes the standard of EIAs highly variable, and the documents difficult to review and assess.

Media coverage

Although considerable efforts are being made by the Ministry of Environment to inform and sensitise the public, there are no regular radio or TV programmes dedicated to environmental issues. An educational programme prepared by the Mauritius College of the Air has regular slots on radio and TV and these sometimes cover environmental issues. The print media also do not cover environmental matters on a regular basis. Although the press has been active in a number of high-profile and sensational cases, it is generally absent from the process and

has been known, on a number of occasions, to be absent from important environmental events in order to cover more 'newsworthy' issues. Thus, this important and valuable tool that could be used to educate the Mauritian public about the value of EIAs and the importance of the process is currently having very limited impact.

Monitoring and enforcement

A skeletal post-EIA Monitoring Unit exists, which follows up on compliance with the conditions under which an EIA certificate is issued. During the period 1 January to 30 November 2002, 315 sites were visited for post-EIA monitoring. Additionally, the Ministry received 1,536 complaints during the same period, of which 1,469 were attended to and resolved. The lack of enforcement of environmental laws has been a problem. This has been due to a shortage of staff, as well as a lack of understanding, awareness and sense of urgency on the part of the enforcement institutions. To remedy this situation the Ministry of Environment, in collaboration with the Mauritius Police Force, created the *Police de l'Environnement* on 1 December 2000. This unit comprises 15–18 Police Officers under the charge of an Inspector. The mission of this unit is the protection of the environment through enforcing environment legislation and assisting the Ministry of Environment and other enforcing agencies in their work.

To date the *Police de l'Environnement* has established over 8,400 contraventions particularly in the context of littering, noise, illegal dumping; nearly 6,000 notices have been issued to drivers of smoking vehicles. The unit has also organised a series of seminars and awareness campaigns to inform other police divisions.

Public participation and transparency

The procedure for reviewing EIAs and granting EIA licences lacks transparency and accountability. In particular, in deciding whether to grant an EIA licence there is no requirement to take into account the views of those consulted, and no requirement to publish the final decision, or to make public the reason or factors on which it was based.

There is also sometimes a lack of consistency in decisions. In one case environmental considerations may prevail over economic or social aspects while in another similar case, the relative importance of these aspects could be changed. In the event of an appeal being lodged, the Environment Appeal Tribunal could have difficulty in reaching a decision and this could be of great significance since any decision by the Tribunal becomes jurisprudence. Thus, in the absence of clear guidelines or rules made by the Ministry of Environment, this legal vacuum will continue to prevail.

Although the public is invited to examine the EIA report and make objections in writing within a certain deadline, public involvement is low. Several factors may contribute to this lack of public participation. The first may be that the Department of Environment makes only two announcements in only two daily newspapers and in the *Government Gazette*, followed by another announcement one week later that an EIA report is available for comment. The second is that the report

may only be viewed at the Department of Environment and may not be copied or taken away. The third limitation is that, since EIA reports are very technical and not in a language easily understandable by laypersons, the public may find difficulty in reviewing them. Finally, a large proportion of Mauritians do not know what an EIA is, or what purpose it serves. Access to information and public participation in the EIA process could be greatly improved, therefore, by addressing these limitations.

The public perception is that EIA is an exclusive process. Despite that, there have been several cases where affected groups and non-governmental organisations (NGOs) have challenged decisions and, though not yet customary in Mauritius as far as the EIA process is concerned, militant action is increasing, as illustrated in the following examples:⁵

- Ile des Deux Cocos in Blue Bay, where a hotel development project was proposed (see Appendix 1)
- Ile aux Cerf, where the leaseholders requested permission to develop a golf course
- Ile aux Benitiers, where another hotel development project was proposed, and
- the Pointe aux Sables stone-crushing plant.

In the first example, the island falls within a marine park. A local watchdog NGO, Eco Sud, acted strongly to stop the development. The EIA permit was not granted; the decision is now under appeal by the developers at the Environment Appeal Tribunal.

In the second example, the local community and fishermen placed objections to the proposed golf course in 1997/98.

Negotiations between the different stakeholders took place, with the initial decision not to build the golf course. This decision was, however, reversed after subsequent discussions between the Government and the developer. The golf course is going ahead with mitigated protest from the members of the public.

The proposed hotel development at Ile aux Benitiers was launched in 2001 after the Government adopted recommendations made by the Islets Task Force on the management of the Mauritian islets. Although the report accepted that some tourist development could take place on this island, it was clear that this should be low key and ecologically compatible. The developers proposed a 100-bed hotel, the re-establishment of native vegetation currently disappeared from the island, and the opening of a public beach. The proposal provoked strong public responses causing the Government to impose a number of stiff restrictive clauses. The developer felt that he was being restricted to the point at which the plan was no longer financially viable, and subsequently abandoned the proposal.

It is interesting that these three cases which involve islets received significant media coverage. It is possible that the concept of the islets of Mauritius as wilderness areas to be preserved for local people has dominated the issue.

In another case, the proposed construction of a stone-crushing plant at Pointe aux Sables on the mainland was not approved because of public comments rejecting the project. These comments, however, were part of the normal course of the EIA process and no particular militancy was involved. Public concern and mobilisation are generally closely linked to proposals for recreation and leisure facilities. The Mauritian public has not yet fully brought its attention to the general environment in which it lives and works.

Key successes and challenges

Successes include the establishment of the Environment Appeal Tribunal to adjudicate issues, even though it is costly and sometimes difficult for people to participate in legal processes.

The immediate challenges, such as delays in processing applications and strategic assessment, have been addressed in the new legislation. However, there is a need to take people's views in the EIA process even more seriously so that EIA is seen as more credible. In view of the complicated nature of Mauritian politics and the constant possibility of corruption, opening up the process and public participation should be encouraged. The process would gain considerably in transparency if public scrutiny and consultation were to start right at the beginning, as is done in other countries. It might also be useful to expand the committee that assesses EIA reports to include NGOs to enhance transparency, and to create closer ties with research and educational institutions in order to share information.



Peter Tarr

Fish for sale at a village near Port Louis. Fishing is an important livelihood for a large number of people in Mauritius.

⁵ A review of these cases is published on the Institute of Environment and Legal Studies website, <http://www.intnet.mu/iels>.

Appendix 1: Case study

Hotel project on Ile des Deux Cocos, Blue Bay

In 1989, a developer submitted detailed plans for a hotel development to the Ministry of Housing, Lands and Environment. The proposed development consisted of a 120-room luxury hotel on an exclusive site on Tokay Island to cater for an expanding tourism business. Other infrastructure requirements, to be built within part of a marine park, included a mainland jetty, landing area and support services. No alternative sites were considered. The projected cost ranged between MR700 million and MR1,000 million (US\$25–30 million), but may have increased in view of the delays subsequently experienced.

The primary expected positive impact of the project was employment creation, while negative ones included impacts on the sensitive coral and other marine life, despite all proposed mitigating measures, since some activities such as intense boat movement cannot be mitigated.

A development certificate was issued by the Ministry of Youth, Sports and Tourism in 1990 and in the following year all other authorisations and permits were granted. The subsequent death of one of the project promoters led to the abandonment of the project. It was revived by new owners in 1995, who submitted an EIA as required by the Environmental Protection Act, 1991, which had since come into force. However, the Ministry of Environment refused to grant an EIA licence because of the potential negative impacts on the marine park.

The proponents appealed to the Environment Appeal Tribunal on the basis that the Minister had failed to take into account the commitments of the State, which, notwithstanding the sensitive marine life that has always existed in the zone, had previously granted the proponent a lease of the islet for building a hotel. Further grounds were that the Minister had erred

in his evaluation of the potential environmental damage.

In 1998, after a long process and much deliberation, the then Ministry of Local Government and Environment informed the proponents that there was no need to apply for an EIA licence and that they could proceed with the hotel construction, as per the development permit granted in 1991. The Department of Environment also informed the developers that they could proceed on the basis of the original permit. The decisions were followed by vigorous public protest in the area, including a petition with 1,000 signatures, as well as extensive local and international media coverage.

The developers accepted the decisions and, after informing the Ministry of Environment, stopped the appeal process and proceeded with construction. Public protest continued with renewed vigour and, as the developer started dredging work in the marine park, an injunction to stop the work was sought by a non-governmental organisation (NGO) on the grounds that the works were causing serious siltation on the corals. Faced with public pressure, the Government requested the developers to submit a new EIA report and application for an EIA permit. Early in 2002 the developer lodged an appeal against the requirement with the Environment Appeal Tribunal.

The key lesson in this case was the failure to have a time limit imposed on the implementation of the project and the validity of the permits, creating conflict with subsequent legislation. This issue is now addressed in the Environment Protection Act of 2002, which stipulates that an EIA licence will lapse if the project is not implemented within two years.



Proposed hotel site

Pierre de Boucherville Baisiac

Appendix 2: Useful contacts

Key government officials dealing with EIA

EIA Committee member	Ministry	Address	Telephone	Fax
Permanent Secretary (Chairperson)	Ministry of Environment	Ken Lee Tower, Barracks St, Port Louis	(+230) 2127181	(+230) 2118324
Director	Department of Environment	Ken Lee Tower, Barracks St, Port Louis	(+230) 2126080	(+230) 2126671
Representative	Ministry of Health	5th Floor, Emmanuel Anquetil Bldg, Port Louis	(+230) 2011912	(+230) 2080376
Representative	Ministry of Agriculture	9th Floor, R Seeneevassen Bldg, Port Louis	(+230) 2120854	(+230) 2124427
Representative	Ministry of Industry	Level 7, Air Mauritius Centre, Port Louis	(+230) 2011068	(+230) 2110855
Representative	Ministry of Housing	SILWF Bldg, Port Louis	(+230) 2129101	(+230) 2129369
Representative	Ministry of Fisheries	4th Floor, LIC Bldg, President John Kennedy St, Port Louis	(+230) 2112455	(+230) 2113407
Representative	Ministry of Public Utilities	Level 10, Air Mauritius Centre, Port Louis	(+230) 2113430	(+230) 2107408
Representative	Waste Water Management Authority	Aisha Bldg, Port Louis	(+230) 2415544	(+230) 2421649

Key NGOs and community-based organisations (CBOs) dealing with EIA

NGO/CBO	Activities	Address	Telephone	Fax	e-mail
Sebastopol UNESCO Club	Public awareness on the environment	Cent Gaulettes Rd, Sebastopol			
Institution of Occupational Safety and Health Management	Environment matters in connection with safety	Belle Vue Mauricia, Sugar Estate			
Young Men's Christian Association (YMCA)	Spiritual, moral and environment issues	Flat No. 2, Arcades Dookun, Rte St Jean, Quatre Bornes	(+230) 4660538	(+230) 4660538	
Mauritius Council for Development, Environment Studies and Conservation (MAUDESCO)	Environment and education	PO Box 1124, Port Louis	(+230) 4252417	(+230) 4248500	maudescos@intnet.mu
Action for Development	Miscellaneous, including the environment	PO Box 1042, Port Louis			
Mauritius Alliance of Women	Miscellaneous, including the environment	St Jean Rd and Murphy St, Quatre Bornes	(+230) 4538550		
Institution for Consumer Protection	Consumer protection, the environment, and anti-smoking campaigns	2nd Floor, Hansrod Bldg, J Mosque St, Port Louis			
Le Centre de Documentation, de Recherches et de Formation Indianocéaniques CEDREFI	Marine environment	BP 91, Rose Hill, Mauritius	(+230) 4655036	(+230) 4649937/2080076	pynee@syfed.mu.refer.org
National Federation of Young Farmers Club	Agriculture and conservation	Young Farmer's Centre, Belle Mare, Quatre Cocos			

Key NGOs and community-based organisations (CBOs) dealing with EIA (continued)

NGO/CBO	Activities	Address	Telephone	Fax	e-mail
Fleurir Maurice Committee	Embellishment of the environment	c/o Mauritius Government Tourist Office, Anquetil Bldg, Port Louis			
Mauritius Scouts Association	Training of youngsters, including environment matters	5 Baden Powell Street, Baden Powell House, Quatre Bornes	(+230) 4666771		mauritiusscout@servihoo.com
Mauritius Council of Social Service (MACOSS)	Miscellaneous, including the environment	Astor Court, Lislet Geoffroy St, Port Louis	(+230) 2120242/ 2084425	(+230) 2086370	macoss@intnet.mu
Bramha Kumari World Spiritual	Spiritual and the environment	Vacoas Rd, Candos, Quatre Bornes			
Friends of the Environment	Environment	Black River			
Southern Action Group	Protection of the environment	Dr Jhuboo St, Souillac			
Association des Consommateurs de l'Île Maurice (ACIM)	Processing of complaints with regard to environment issues	18 De Chartres St, Port Louis	(+230) 2122333	(+230) 2082193	
Maucescoya	Environment studies and conservation	6 Edith Cavell St, Port Louis			
Mauritius Marine Conservation Society	Conservation of the marine environment	c/o MUG, Railway Road, Phoenix	(+230) 6965368		mmcs@bigfoot.com
Biodiversity Action Group	The environment and research	Solferino 2, Vacoas			
Bahai Community of Mauritius	Spiritual, including environment conservation and awareness	40 Volcy Pougnet St, Port Louis	(+230) 2122179	(+230) 2111212	
Soroptimist International IPSAE	Protection of the environment	Botanical Garden St, Curepipe	(+230) 6763669		
Institution for Environmental and Legal Studies	Miscellaneous, including the environment	4 Villa Lane, Bon Air, Moka	(+230) 4643295	(+230) 4654304	iels@servihoo.com
Conservation in Action Caves	Conservation of caves	Hermitage Centre de Flacq			
Top Decouverte Nature	Public awareness of environment	Ecole du Centre, Helvetia St, Pierre, Moka	(+230) 4332475		
Global Rivers Environmental Education Network (Green) Club	Public awareness about the environment	78 Royal Rd, Tombeau Bay			
Bonsai Club	Agriculture and conservation	M-31 NHDC Complex, Camp Leveux, Rose Hill			
Grand Bay Watch	Public awareness and the environment	N Chetty Building, Sotise Rd, Grand Baie	(+230) 2691072 2634061		
Gold Award Holders Association	The environment and education	Union Vale Road, Mare D'Albert			
Eco Sud	Conservation and protection of the environment	Pte D'Esny, Mahebourg			
Atlantis Diving Centre	Marine conservation				
Art Jonction	Conservation and preservation of the environment and protection of the natural heritage	Dookun Lane, Mare Gravier, Beau Bassin			

Key academic institutions offering courses in EIA

Academic institution	Course provided	Address	Telephone	Fax
University of Mauritius	Various courses provided from diploma level to Bachelor's degree in different disciplines and faculties related to EIA		(+230) 4541041	(+230) 4657144 (Engineering) 4656928 (Science)

Useful websites

Ministry of Environment, Mauritius

<http://environment.gov.mu>

References and other key publications

- Europa Publications. 1999. *Africa south of the Sahara* (29th edition). London: Europa Publications.
- GM (Government of Mauritius). 1968. *Constitution of Mauritius RL 1/1 – 12th March 1968*. Port Louis: Government of Mauritius.
- GM (Government of Mauritius). 1999. *National environment strategies for the Republic of Mauritius: National environment action plan for the next decade (NEAP II)*. Port Louis: Government of Mauritius.
- Ministry of Economic Development and Regional Cooperation. 1997. *Vision 2020: The national long-term perspective study*. Port Louis: Government of Mauritius.
- Ministry of Environment. 2002. *Ministry of Environment, Mauritius*. [online]. Available at <http://environment.gov.mu> [Accessed 2002].
- Ministry of Environment and Quality of Life. 1991. 'State of the environment in Mauritius'. Report prepared for presentation at the 1992 United Nations Conference on Environment and Development.
- Ministry of Housing, Land and the Environment. 1990. *White Paper on the national environmental policy*. Port Louis: Government of Mauritius.
- Ministry of Housing, Land and Town and Country Planning. 1995. *National physical development plan*. Port Louis: Government of Mauritius.
- Washington Post. 2002. *International station meteorological climate summary, Version 4.0* [online]. Available at <http://www.washingtonpost.com/wp-srv/weather/longterm/historical/data> [Accessed May 2002].
- World Bank. 1990. 'National environmental action plan for Mauritius (NEAP I)'. Unpublished report prepared and presented to the Government of Mauritius.
- World Bank Group. 2002. *World development indicators database* [online]. Available at <http://devdata.worldbank.org/query/> [Accessed May 2002].

Acknowledgements

I would like to thank the following people for their comments and suggestions on an earlier draft of this manuscript: Mr W Ayelou (Secretary, Environment Appeal Tribunal), Dr K Bhagwant (University of Mauritius), Mr Assenjee Bholah (Mauritius Sugar Industry Research Institute), Mrs Mala Chetty (Grand Bay Watch), Mr Keshore Kumar Heeramun (Ministry of Environment), Mr R Hemoo (Ministry of Housing), Mr Jhurry (Waste Water Management Authority), Mr Mardayven Nallee (Ministry of Fisheries), Mr Dheeraj Reetoo (Ministry of Agriculture), Mr Etienne Sinatambo (Institute of Environment and Legal Studies) and Mr Tandrayen (Ministry of Health). I would also like to thank Mr Nitin Ranphul, especially, who helped me with the research and writing of this chapter.