

A situation report

The nature and extent of environmental crimes in Seychelles



Rose Mwebaza, Phillip Njuguna, Iris Corullus and Dennis Matatiken
November 2009



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Acronyms

AG	Attorney General	NGO	Non-Governmental Organisation
CBD	Convention on Biological Diversity	NIP	National Implementation Plan
CFC	Chloro-Fluoro Carbon	NPCS	National Plant Conservation Strategy
CITES	Convention on International Trade in Endangered Species	NPNCA	National Park and Nature Conservancy Act
CLC	International Convention on Civil Liability for Oil Pollution Damage	ODS	Ozone-Depleting Substances
CMS	Convention on Migratory Species	OPRC	International Convention on Oil Pollution Preparedness and Response
DG	Director General	PCA	Pesticides Control Act
DOE	Department of Environment	POP	Persistent Organic Pollutants
EAPCCO	Eastern African Police Chiefs Cooperation Organisation	PS	Principal Secretary
ECP	Environmental Crime Project	PUC	Public Utilities Corporation
EIA	Environmental Impact Assessment	SADC	South African Developing Community
EPA	Environmental Protection Act	SBS	Seychelles Bureau of Standards
EP	Environmental Protection	SMART	Seychelles Magpie Robin Action and Recovery Team
FAO	Food and Agriculture Organisation	SETS 21	Seychelles Ecotourism Strategy
FUNDS	International Convention on the Establishment of an International Fund for Compensation for Oil Pollution	SIF	Seychelles Island Foundation
GEF	Global Environment Facility	SFA	Seychelles Fishing Authority
GMO	Genetically Modified Organism	SLA	Seychelles Licensing Authority
HBFC	Hydrobromofluorocarbon	SPA	Seychelles Port Authority
HCFC	Hydro chlorofluorocarbon	SWAC	Solid Waste and Cleaning Agency
ICS	Island Conservation Society of Seychelles	TCPA	Town and Country Planning Act
IDC	Islands Development Company	UNESCO	United Nations Educational, Scientific and Cultural Organisation
IOTC	Indian Ocean Trade Commission	UNODC	United Nations Office on Drugs and Crime
ISS	Institute for Security Studies	UNCLOS	United Nations Conventions on the Law of the Sea
IUU	Illegal Unreported and Unregulated Fisheries	UNCCD	United Nations Convention to Combat Desertification
MCS	Monitoring Control and Surveillance Section	UNFCCC	United Nations Framework to Combat Climate Change
MCSS	Marine Conservation Society of Seychelles	POPS	Convention on Persistent Organic Pollutant
MEA	Multilateral Environmental Agreement	PIC	Convention on the Prior Informed Consent procedure for certain hazardous chemicals and pesticides in international trade (PIC)
MND	Ministry of National Development	SCMRT-MPA	Seychelles Centre for Marine Research and Training– Marine Parks Authority
MPA	Marine Park Authority	VMS	Vessel Monitoring Systems
NBF	National Bio safety Framework		
NBSAP	National Biodiversity Strategy and Action Plan		

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Executive summary

This research was undertaken by the Environmental Crime Project (ECP) of the Institute for Security Studies (ISS) as part of an eight-country study to determine the nature and extent of environmental crime in Eastern Africa. The study was intended to contribute to the enhancement of regional law enforcement against environmental crime in Eastern Africa.

The national study took place in Seychelles from January to March 2009 and included a national workshop to validate the findings of the authors before the report was published. The study consisted of a thorough analysis of the state of the environment and the extent of environmental crime in the country. In addition, the study examined the legal and institutional regime for combating environmental crime in Seychelles. Finally, an assessment of the challenges facing these institutions was undertaken and recommendations were made to effectively deal with environmental crimes in the country.

The authors reviewed national legislation, status reports on the implementation of multilateral environmental agreements and environmental policy documents. They also reviewed reports on cases of environmental crimes from various government departments, including the Attorney General's Chambers. Interviews with staff from government agencies, parastatals and non-governmental organisations were conducted via email, telephone and in person. The findings of the study were presented at a national validation workshop on 17 March 2009.

The study shows that an extensive legislative framework provides for the protection of the environment in Seychelles. However, this has not prevented the commission of environmental crimes in the country. Several factors have contributed to this state of affairs.

Most of the legislation is outdated and the penalties are not deterrent enough. It is therefore imperative that they be amended to reflect the present conditions and to take into account the country's international obligations.

Several cases of environmental crime have been reported over the past years. Most of the recorded cases in 2008 involved pollution, illegal fishing, illegal development and poaching of animal and plant species. The

majority of those cases pertained to littering, with 209 reported cases for which the offenders were issued with fixed penalty notices. Only 59 per cent of the notices were paid. Oil pollution cases were reported in the marine environment and most of these were settled out of court, as is the case in the majority of illegal fishing incidents.

However, the true extent of environmental crimes in Seychelles could not be established owing to the lack of data in relation to the compilation of recorded cases and their follow-up. It is therefore vital that an accessible database be developed to facilitate the collection, storage and retrieval of environmental crime information in Seychelles.

Enforcement of environmental crime is mostly undertaken by government departments and parastatal and non-governmental organisations. The agencies responsible for the enforcement have limitations. They lack the necessary capacity and training to enable them to effectively process and deal with environmental cases. These limitations are likely to be exacerbated with the on-going national institutional restructuring which will limit the government's role to that of a facilitator as opposed to the previous position where the government was also the implementer. Staff within enforcement agencies should be equipped to better detect and enforce environmental legislation.

The process of the criminal justice system is extremely slow and environmental crimes are not regarded as serious despite a legal unit being created in the Department of Environment to speed up the process. A way forward would be to equip the legal unit to appear in court or, alternatively, to establish an environmental tribunal.

Support is required in the development of an effective environmental education policy to better sensitise members of the public to environmental laws, crimes and penalties and the consequences of environmental crime in order to reduce the number of crimes being perpetrated.

Because of the trans-boundary nature of environmental crime, there is a need to foster and develop partnerships both at the local and the regional level to better deal with environmental crimes and the protection of the environment through the establishment of a regional information-sharing mechanism.

Introduction

The Institute for Security Studies (ISS) and the Eastern African Police Chiefs Cooperation Organisation (EAPCCO) are undertaking a joint project to enhance regional law enforcement against environmental crime in the following eight member countries in Eastern Africa: Burundi, Ethiopia, Kenya, Rwanda, Seychelles, Sudan, Tanzania and Uganda. The main goal of the project is to improve the protection of the flora, fauna and the environment in the region. It will meet this goal through the implementation of the following key objectives:

- To carry out in-depth analyses of the extent and nature of illicit trade in forest products, wild animals, illegal transporting/transit and dumping of hazardous waste in the member states
- To develop tools for capturing information and monitoring the trend in environmental crime
- To build capacity among the inter-governmental and national agencies of member states to combat environmental crime
- To analyse and determine the role of non-governmental organisations (NGOs) in assisting law enforcement in the member states and to identify ways to strengthen this collaboration
- To publish research findings and raise awareness of the issues at the national and regional levels
- To facilitate community participation in the management of natural resources by building partnerships with communities located in proximity to forests, game reserves and mining sites
- To support the implementation of existing and to formulate new legislation in the EAPCCO member states
- Based on the capacity needs assessment, to build the capacity of law enforcement agencies and communities to address environment-related crime.

STUDY ON THE NATURE AND EXTENT OF THE ENVIRONMENT OF CRIME IN EASTERN AFRICA

The illegal trade in flora and fauna and the illegal transportation and dumping of hazardous substances threaten the environment in many East African countries. The threats are caused by multiple and complex factors. Those committing the crimes are usually armed and are engaged in other criminal trades. Investigations have revealed that organised criminal groups engaged in wildlife trade are also involved in drugs and weapons smuggling. Furthermore, trade is so complex that it poses an enormous challenge to authorities in that region. It is difficult to detect these crimes and to persecute criminals and criminal groups because of the protection they receive from corrupt officials. Therefore, this situation has become a global concern and several international conservation agencies and law enforcement bodies involved in combating trans-national crime, including Interpol and the United Nations Office on Drugs and Crime (UNODC), have made combating those organised crimes a priority.

The ISS, together with the EPCCO, is implementing an environmental crime project to determine the nature and extent of environmental crimes in the Eastern Africa region. The project has undertaken studies in the eight East African countries to collect data and generate information that will result in the production and publishing of a comprehensive status report on the nature and extent of illegal trade in flora and fauna and the illegal dumping of hazardous waste in that region.

Study methodology

The method used in preparing the report was based on extensive literature reviews of national legislation, national status reports on the implementation of multilateral environmental agreements (MEAs) and environment policy documents. It also involved a review and compilation

of data from files and reports on cases of environmental crime. Stakeholders were consulted via face-to-face, email and telephonic interviews. A stakeholder consultation workshop was furthermore held on 17 March 2009 to validate and add to the findings of the study.

State of the environment and environmental crime in Seychelles

The Seychelles archipelago consists of 115 islands located between 4 to 5 degrees south and 56 to 57 degrees east in the western Indian Ocean. The islands are of granitic and coral origins with a total land area of 455 square kilometres distributed in an exclusive economic zone of 1,3 million square kilometres. The granitic islands represent relicts of ancient Gondwanaland that have been isolated from continental landmass for some 70 million years.

The climate is tropical with a high annual average rainfall, high humidity (70 to 80 per cent) and mean temperatures ranging between 24 to 30 degrees Celsius [52, 56]. The country experiences a wet and a dry season. The wet season occurs from November to March when the wind blows from the northwest (northwest monsoon) [56] whilst the dry and cooler period is from May to October when the wind blows from the southeast.

Table 1 List of marine and terrestrial protected areas

Site Name	National Designation	Ownership	Marine or Terrestrial	Total Area (ha)	Total Terr. Area (ha)	Total Marine Area (ha)
African Banks	Protected Area	Govt.	Both	3,00	0	3,00
Aldabra	Special Reserve	Govt. (leased)	Both	35 000,00	20 800,00	14 200,00
Aride Island	Special Reserve	Govt. (leased)	Both	70,00	70,00	0,00
Baie Ternay	Marine National Park	Govt.	Marine	87,27	0,99	86,28
Cousin Island	Special Reserve	NGO	Both	1,50	0,3	1,20
Curieuse	Marine National Park	Govt.	Both	1 578,15	294,46	1 283,69
Ile Cocos, Ile La Fouche, Ilot Platte	Marine National Park	Govt.	Both	170,53	5,05	165,48
La Digue Veuve	Special Reserve	Govt.	Terrestrial	8,00	8,00	0
Morne Seychellois	National Park	Govt.	Terrestrial	3 045,00	3 045,00	0
Port Launay	Marine National Park	Govt.	Both	157,85	3,59	154,26
Praslin	National Park	Govt.	Terrestrial	675,00	675,00	0
Silhouette	Marine National Park	Govt.	Both	3 045,00	1 390,00	1 655,00
Ste Anne	Marine National Park	Govt.	Both	1 384,75	388,71	996,04
Vallee de Mai	Nature Reserve	Govt. (leased)	Terrestrial	81,00	81,00	0
Six sites: Beacon, Booby, Boudeuse, Etoile, Ile aux Vache, Les Mamelles	Nature Reserves	Govt.	Terrestrial	15,00	15,00	0
Total				45 322,05	26 777,10	19 368,95

Table 2 Regulations that offer protection to fauna

Legislation	Species
Wild Animals and Birds Protection Act (1961 as amended by Act 9 of 2001)	All birds are protected, with the following exceptions: Cardinal Bird (<i>Foudia Madagascariensis</i>); African Barn Owl; Mynah; House Sparrow
Wild Birds Protection Regulation (1966 as amended 1968, 1999)	<ul style="list-style-type: none"> Seychelles Bulbul (<i>Ixocincla Crasirostris</i>) on Frégate, La Digue and Praslin from 15 April to 15 November inclusive
Wild Animals (Seychelles Pond Turtle) Protective Regulations (1966)	<ul style="list-style-type: none"> Cattle Egret (<i>Bubulcus Ibis</i> and Grey heron (<i>Ardea Cinerea</i>) on islands where sea birds lay their eggs: Desnoeuufs, L'Illet Frégate and Bird
Wild Animals (Giant Land Tortoises) Protection Regulation (1974 as amended 1999 and 2000)	<ul style="list-style-type: none"> Nestling of Wedge-tailed Shearwater (<i>Procellaria Pacifica Hamiltoni</i>) from 1 January to 31 March, except on Beacon, Les Mamelles, Cousin, Cousine and Bird
Wild Animals (Turtles) Protection Regulations (1994)	<p>Protected Animals: Seychelles Pond Turtle; Giant Land Tortoise (<i>geochelone gigantea</i>); Green Turtle (<i>Chelonia mydas</i>); Hawksbill Turtle (<i>Eremochelys imbricate</i>); any other turtle which from time to time may be found in the territorial waters of Seychelles; Whale Shark (<i>rhincodon typus</i>)</p>
Birds' Eggs Act (1933, last amended 1961)	Collection of eggs of following birds regulated: Sooty Tern (<i>Sterna fuscata nubilosa</i>), Common Noddy (<i>Anous stolidus pileatus</i>) on all islands except Desnoeuufs (unlimited amount/per year), L'Illet Fregate (70,000/per year) and Bird (30,000/per year).
Birds Eggs and Products (Quota) Proclamation (1941)	
Bird Eggs and Birds Eggs Products (Exportation) Regulations (1971)	
Birds Eggs (Collective) Regulations (1972)	
Fisheries Act (1986, as amended by Act 4 of 2001)	<p>Protected species: Shells:</p> <ul style="list-style-type: none"> In shell reserves Cannot purchase, sell, offer or expose for sale unworked shells Except the following: <i>bernique</i>; <i>bigorneau</i>; <i>burgot</i>; <i>chicoret</i>; <i>hache d'ames</i>; <i>huître</i> (edible); <i>huître</i> (mother-of-pearl); <i>mouque</i>; octopus; <i>palourde</i>; squid; <i>tec-tec</i> Triton Conch Shell (<i>charonia tritonis</i>) Cannot possess more than 20 kgs of shells except if in possession of a permit from the Seychelle Fishing Authority (SFA) Cannot blast coral or reef except with permission of the SFA/COMPOL Prohibition to fish mackerels with nets before 5 am or after 4 pm Shark fishing with nets Homard¹ in a buried state Female crustacean² in buried state Any protected aquatic organism that is caught unintentionally Any marine mammal <p>Permits from the SFA required for fishing the following:</p> <ul style="list-style-type: none"> Homard (closed season: 1 February to 31 October³/ Cannot fish in shell reserves/Must be over 7.5 cm in length) Sea cucumber
Fisheries Regulations (1987)	

Source: Ferguson and Carolus (2005)

Seychelles is recognised internationally as a biological hotspot. It has a unique biodiversity rich in endemic plants, birds and amphibians found nowhere else in the world. The terrestrial area consists of iconic species such as the coco-de-mer palm (*Lodoicea maldivica*) and the Giant Land Tortoise. The sites in which those two species are found have been designated as UNESCO World Heritage Sites. Other interesting species are also found in the marine environment. The protection of these ecosystems is therefore paramount.

The Seychelles government recognises the importance of the conservation of its biodiversity that forms part of its natural heritage. It has set aside more than 45 per

cent of the total land as terrestrial parks to protect the habitats of the flora and fauna (Table 1). Apart from offering protection to the biodiversity, the terrestrial parks protect important catchment areas from which most of the potable water is derived. Furthermore, parts of the marine environment have been declared as marine parks that act as spawning grounds for the traditional fishery. The government is committed to increase the number of terrestrial and marine protected areas.

Different stakeholders are committed to the protection of the environment. The government, NGOs and the private sector are active in carrying out conservation activities that have greatly enhanced Seychelles'

Table 3 Regulations that offer protection to flora

Legislation	Species	
Coco-de-Mer (Management) Decree, 1978 (as amended by Act 10 of 1994)	Coco-de-mer	
Breadfruit and Other Trees (Protection) Act	BOTANICAL NAME 1. <i>Adenanthera pavonina</i> 2. <i>Albizia falcataria</i> 3. <i>Terminalia catappa</i> 4. <i>Hernandia sonora</i> 5. <i>Imbricaria sechellarum</i> 6. <i>Heritiera littoralis</i> 7. <i>Alstonia macrophylla</i> 8. <i>Sideroxylon ferrugineum</i> 9. <i>Albizia lebek</i> 10. <i>Dillenia ferruginea</i> 11. <i>Tabebuia pallida</i> 12. <i>Casuarina equisetifolia</i> . 13. <i>Eucalyptus sp.</i> 14. <i>Artocarpus altilis</i> 15. <i>Intsia bijuga</i> 16. <i>Artocarpus intergrifolia</i> 17. <i>Melia dubia</i> 18. <i>Swietenia macrophylla</i> 19. <i>Eugenia malaccensis</i> 20. <i>Pterocarpus indica</i> 21. <i>Sandoricum indicum</i> 22. <i>Calophyllum</i> 23. <i>Tectonia grandis</i> 24. <i>Cocos nucifera</i> 25. <i>Deckenia Nobilis</i> 26. <i>Nephrosperma Vanhoutteanum</i> 27. <i>Vercheffetia Splendida</i> 28. <i>Roscheria melanocheates</i> 29. <i>Phoenicophonum borsigniamum</i> 30. <i>Lodoicea maldivica</i>	COMMON NAME Lagati (Agathie) Albizya (Albazia) Bodanmyen (Badamier) Bwa Blan (Bois Blanc) Bwa-d-Nat (Bois de Natte) Bwa-d-Tab (Bois de Table) Bwa-Zonn (Bois Jaune) Bwa Mazambik (Bois Mozambique). Bwa Nwar (Bois Noir) (Bwa Rouz Bois Rouge) Kalis Dipap (Calice du Pape) Sed (Cedre, Filao) Kaliptis (Eucalyptus) Friapen (Arbre a Pain) Gayak (Gayac) Zak (Jaquier) Lilak (Lilac) Maogani (Mahogany) Ponm Government (PommeGouvernement) Sandragon (Sandragon) Santol (Santol) Takamaka (Takamaka) Tek (Teck). Pye Koko (Coconut) Palmiste Latanier millepattes Latanier Latte Latanier Hauban Latanier Feuille Coco-de-Mer

Source: Ferguson and Carolus (2005)

environmental reputation globally. This has enabled the country to fulfil significant components of its international commitments under various MEAs (for instance CBB, CITES, Nairobi Convention). These have added significant value to tourism and ecotourism.

The country has managed to protect and maintain its environment because of the extensive legal framework

it has in place. Several laws protect specific ecosystems, such as marine and terrestrial parks, as well as those that specifically protect certain animal (Table 4) and plant species (Table 5). Environmental protection is critical for Seychelles as its economy relies heavily on its environment.

The legal framework for enforcing environmental crime in the country

MULTILATERAL ENVIRONMENTAL AGREEMENTS

The various MEAs that Seychelles has ratified partly set the framework for the management and enforcement of environmental crime in the country. Annex 1 lists the biodiversity; climate change/protection of the ozone layer and the pollution-/waste-related MEAs that Seychelles has either signed, ratified or acceded to.

This section briefly describes the MEAs and the status of implementation into domestic law.

Biodiversity-related conventions

Seychelles has signed, acceded to and/or ratified various conventions related to the protection of flora and fauna.

African Convention on Conservation of Nature and Natural Resources, 1968

This convention commits parties to adopt the necessary measures to ensure the conservation, utilisation and development of soil, water, floral and faunal resources in accordance with scientific principles and with due regard to the best interests of the people. It encourages parties to use resources in a sustainable manner, protect habitats and prevent and control water pollution. It was adopted in 1968 and came into force the following year. Seychelles ratified the convention in 1997 and to date there are several pieces of legislation in place to implement the convention, particularly the Environment Protection Act 1994 (EPA), which has a vital role to play in the protection of habitats and the prevention and control of pollution.

The United Nations Convention on the Law of the Sea (UNCLOS)

The UNCLOS of 1982 (including the agreement relating to the implementation of Part XI of the UNCLOS and the agreement for implementation of provisions of UNCLOS relating to conservation and management of straddling fish stocks and highly migratory fish species) defines the rights and responsibilities of nations in their use of the world's oceans establishing guidelines for businesses, the environment, and the management of marine natural resources which came into force in 1997. The convention defines the rights and responsibilities of nations in their use of the world's oceans establishing guidelines for businesses, the environment, and the management of marine natural resources which came into force in 1997. Seychelles has sought to implement the provisions of the UNCLOS for the determination of its maritime zones through the Maritime Zones Act 1999. Furthermore, the Maritime Zones (Marine Pollution) Regulations, 1981, provide for the protection and preservation of the marine environment as well as the prevention and control of marine pollution. The regulations also prohibit the discharge of any oil or oily mixture into the territorial waters of Seychelles from any place on land.

Nairobi Convention, 1985, and its Protocols

This convention seeks to protect, manage and develop the marine and coastal environment of the Eastern African region. It also provides a mechanism for countries to cooperate regionally. It was signed in 1985 and came into force in 1996. Seychelles signed the Nairobi Convention and its Protocols in 1985 and ratified it 1990. Several

internationally sponsored activities and projects in the country implement the convention⁴.

Convention on Biological Diversity, 1992

The Convention on Biological Diversity (CBD) promotes the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of benefits arising from the use of genetic resources. It was signed in 1992 and entered into force on 29 December 1993.

Seychelles was the second country to sign and ratify the convention in 1992. To implement the convention, Seychelles undertook the Biodiversity Assessment in 1997; subsequently, the National Biodiversity Strategy and Action Plan (NBSAP) was prepared in 1997 pursuant to Article 6 of the convention, which requires all contracting parties to ‘develop national strategies, plans or programs for the conservation and sustainable use of biological diversity.’

The NBSAP summarises the descriptive data and information in the Biodiversity Assessment; it identifies the country’s vision for biodiversity; its objectives, needs and gaps; and the actions required to bridge the latter. It provides a timetable for action over a plan period of five years (1997-2003).

The Tourism Development Strategy, Vision 21, and the Seychelles Ecotourism Strategy (SETS 21) also serve to implement certain obligations of the CBD.

Another initiative undertaken to implement the CBD is the National Plant Conservation Strategy prepared by the Ministry of the Environment and Natural Resources (MENR) in close collaboration with the Plant Conservation Action Group, a local NGO.

Legislation to implement the provisions of the convention includes the following: Breadfruit and Other Trees (Protection) Act 1917; State Land and River Reserves Act 1903; Birds Eggs Act 1933; Wild Animals and Birds Protection Act 1961⁵; National Parks and Nature Conservancy Act 1969; Town and Country Planning Act 1972; Fisheries Act 1987⁶; Environment Protection Act (EPA) 1994; Environment Protection (EP) Environmental Impact Assessment (EIA) Regulations 1996⁷. It has been proposed, however, to streamline and cross-reference biodiversity legislation with other sectoral legislation, for instance the Town and Country Planning Act (TCPA).⁸

Cartegena Protocol on Bio safety, 2000

The Cartagena Protocol, under the CBD, seeks to protect biological diversity from the potential risks posed by living modified organisms resulting from modern biotechnology. It also makes clear that products from new technologies must be based on the precautionary principle and allow developing nations to balance public health

against economic benefits. It was adopted in 2000 and came into force in 2003.

Seychelles actively participated in the development of the Cartagena Protocol and ratified it in August 2004. The National Bio safety Framework (NBF), which is a combination of policy and legal, administrative and technical instruments, was developed in 2005 to ensure a high level of protection in the transfer and handling of genetically modified organisms (GMOs) resulting from modern use of biotechnology that may have adverse effects on the conservation and sustainable use of biological diversity, taking into account risks to human health.

A draft biosafety legislation law has been produced.

Bonn Guidelines, 2002

The Bonn Guidelines on access and genetic diversity under the CBD was adopted in 2002. It aims to assist governments in developing national and regional legislation and mechanisms to ensure fair access to genetic resources and in sharing benefits from these resources. Draft legislation on access and benefit sharing has been developed and is awaiting parliamentary approval.

United Nations Convention to Combat Desertification, 1994

The aim of the United Nations Convention to Combat Desertification (UNCCD) is to combat desertification and mitigate the effects of drought through national action programmes that incorporate long-term strategies supported by international cooperation and partnership arrangements. It was adopted in 1994 and entered into force in December 1996.

Seychelles ratified the convention in 1997. Although the country does not experience desertification, it seeks to implement the convention in relation to sustainable land management. A series of existing legislation addresses issues pertinent to the UNCCD. These include the Breadfruit and Other Trees (Protection) Act 1917; State Land and River Reserves Act 1903; National Parks and Nature Conservancy Act 1969; TCPA 1972; EPA 1994 and the EP EIA Regulations 1996⁹.

Convention on Wetlands of International Importance Especially as Waterfowl Habitat, 1971 (Ramsar) as amended

The Ramsar Convention promotes the conservation and sustainable utilisation of wetlands so as to stem the progressive encroachment on and loss of wetlands by recognising the fundamental ecological functions of wetlands and their economic, cultural, scientific and recreational value. The convention was developed and adopted in 1971 and came into force in 1975. Seychelles ratified the Ramsar Convention in November 2004 and

it came into effect in March 2005. No specific legislation is in place to protect wetlands but the EPA requires that an EIA be undertaken if a prescribed project or activity is to be undertaken in such an area. Port Launay has been declared a Ramsar International Wetlands Site.

Convention on International Trade in Endangered Species of Wild Fauna and Flora

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) ensures that international trade in specimens of wild animals and plants does not threaten their survival. Seychelles became a party to CITES in 1977. The Department of Environment (DOE) is the designated authority issuing CITES certificates for species listed under the convention. Draft legislation has been sent to the CITES Secretariat for approval.

Climate-related conventions

United Nations Framework on Climate Change Convention (UNFCCC), 1992, and the Kyoto Protocol to the UNFCCC, 1997

Seychelles signed and ratified the United Nations Framework on Climate Change Convention (UNFCCC) in 1992 and ratified the Kyoto Protocol in 2005. The convention is aimed at stabilising the amount of greenhouse gases in the atmosphere at a level that prevents risks of man-made climate change. It is in the process of preparing its Second National Communication.

Vienna Convention (1985) and the Montreal Protocol (1987) as amended by the Vienna (1990), London (1990), Copenhagen (1992), Montreal (1995) and Beijing (1999) amendments

Seychelles acceded to the convention and signed the Montreal Protocol in 1993 and all the subsequent amendments, the last two being the Montreal and Beijing amendments, in August 2002. The Environment Protection (Ozone) Regulations¹⁰ and the Trades Tax (Prescribed Goods) Notice¹¹ were enacted in 2000 to give effect to the protocol.¹² The EP (Ozone) Regulations are being amended to include new ozone-depleting substances (ODS) and to phase out certain ODS effective as of 2007 as required by the subsequent amendments to the Montreal Protocol.

Waste/pollution/chemical conventions

Basel Convention on the Control of Trans-boundary Movements of Hazardous Wastes and their Disposal, 1989

The Basel Convention seeks to reduce the movements of hazardous waste between nations and to prevent the

transfer of hazardous waste from developed to less-developed countries (LDCs). It is also intended to minimise the amount and toxicity of wastes generated, to ensure their environmentally sound management as closely as possible to the source of generation, and to assist LDCs in the environmentally sound management of the hazardous and other wastes they generate. The convention came into force in 1992.

Seychelles acceded to the convention in 1993. It has been implemented into domestic law through the EPA 1994 and the Codes of Practice for hazardous or toxic substances used by industry or households: SBS 1994 SS 36 94 Code of Practice for Handling, Storage and Disposal of Hazardous Chemicals and other Agricultural Pesticides; and SBS 1995 SS 45 95 Code of Practice for the Disposal of Hazardous and Radioactive Waste issued by the Seychelles Bureau of Standards (SBS). The codes of practice establish a list of authorised products, including their specifications; precise regulations on the labelling, use storage and disposal of hazardous substances; inspectorate procedures; and sampling methods. The aim of these codes of practice is to minimise the adverse effects of domestic and industrial chemicals by strengthening measures to regulate their import, sale, storage, use and disposal.

Protocol on Liability and Compensation for Damage Resulting from the Trans-boundary Movements of Hazardous Wastes and their Disposal, 1999

This protocol was adopted in 1999. It provides for a comprehensive regime for liability as well as adequate and prompt compensation for damage resulting from the trans-boundary movement of hazardous and other wastes, including incidents resulting from illegal traffic in those wastes. Seychelles has not ratified or signed the Protocol on Liability and Compensation for Damage Resulting from the Trans-boundary Movements of Hazardous Wastes and their Disposal, 1999, as the protocol has not yet come into force. However, the EPA does cover the movement of hazardous waste.

Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (PIC), Rotterdam, 1998

The convention was adopted in 1998. The aim of this convention is to promote a shared responsibility between exporting and importing countries to protect human health and the environment from the harmful effects of certain chemicals and pesticides by controlling and monitoring trade. Seychelles signed the convention in 1998. The convention has been implemented, to a certain extent,

through two pieces of legislation, namely the EPA of 1994 and the Pesticides Control Act (PCA) of 1996.

Convention on Persistent Organic Pollutants, Stockholm, 2001

The Convention on Persistent Organic Pollutants (POPs) seeks to protect human health and the environment from persistent organic pollutants that remain intact in the environment for long periods. The convention was adopted in 2001 and entered into force in 2004. It urges parties to take measures to eliminate or reduce the release of POPs into the environment. Seychelles signed the convention in 2001 and ratified it in 1998. The National Implementation Plan (NIP) has been developed since 2007.

LEGISLATIVE FRAMEWORK

This section provides details on the environmental legislative framework of the country.

The Constitution

Article 38 of the Constitution states that it is the right of every person to live in and to enjoy a clean, healthy and ecologically balanced environment. The State undertakes to put in place measures to promote the protection, preservation and improvement of the environment; to ensure sustainable socio-economic development by judicious use and management of resources; and to promote public awareness of the need to protect, preserve and improve the environment. Similarly, under Article 40, the Constitution makes it the duty of every citizen to protect, preserve and improve the environment.

Pollution-related measures

The Environment Protection Act 1994¹³

The EPA of 1994 provides for the protection, preservation and improvement of the environment and for the control of hazards to human beings, other living creatures, plants and property. The act also provides for the coordination, implementation and enforcement of policies pursuant to the national objectives on environment protection. This act is administered by the DOE of the Ministry of Environment and Natural Resources, which has been designated as the authority under the act. The act makes provisions for the authority to co-ordinate the activities of other agencies concerned with the protection of the environment.

The act provides for the prevention, control and abatement of environmental pollution.¹⁴ Under the act no person is allowed to discharge or place into the ground or dispose in the subsoil or dig into the ground any polluting or hazardous substance or waste;¹⁵ or discharge

any effluent, or throw, deposit or place any polluting, or hazardous substance or waste in any watercourse or in the territorial waters without authorisation¹⁶ from the DOE.

Section 6 gives authority to prescribed standards. Accordingly, the following standards have been issued: EP (Standards) Regulations¹⁷ on effluent quality and the EP (Noise Emission Standards) Regulations (1999)¹⁸.

The Environment Protection (Standard) Regulations (1995) prescribes effluent quality standards for the purposes of implementing the objectives of the EPA, and covers the discharge of effluents to a recipient system from any industry, operation or process. The effluent quality standard specifies maximum concentrations for a range of pollutants, including organic and heavy metal pollutants which may be present in effluent discharges.

The Environment Protection (Noise Emission Standards) Regulations (1999) set the limits of noise levels in respect to areas and times referred to in the Schedule to the Regulations. Noise emitted in excess of these standards is prohibited except where authorisation has been granted.¹⁹ The act provides for the declaration of one or more coastal zones as protected. No person is allowed to release or cause to be released into the coastal zone polluting or hazardous substances by dumping or through the atmosphere.²⁰ However, to date no coastal zones have been designated under these provisions.

The act provides for regulations for the control of any substance, practice or activity that may reasonably be anticipated to endanger the environment.²¹ Accordingly, the Environment Protection (Ozone) Regulations SI 24 of 2000 have been enacted. The regulations are being amended to include new ODS and to phase out certain ODS effective as of 2007 as required by the subsequent amendments to the Montreal Protocol. The proposed legislative amendments include the following: a ban on the import of Hydrobromofluorocarbons (HBFCs) and Hydrochlorofluorocarbons (HCFCs), which will be effective as from 1 January 2020; the introduction of a fixed penalty provision for the import of prescribed substances or products containing, made with or designed for prescribed substances; the requirement to reshipe any prescribed substances and products containing, made with or designed for prescribed products illegally imported in the country at the importers' own cost. These amendments will necessitate the amendment of Environment Protection (Ozone) Regulations (2000) the Trades Tax (Prescribed Goods) Notice (2000) and the relevant provisions of the Licences Act 1986.

Section 12 of the act provides specifically for the management of waste. The section states that the Minister shall prescribe standards for the classification and analysis of wastes and the standard treatment and disposal methods and regulations on the introduction, production,

possession, handling and storage, transportation, segregation and disposal of hazardous waste. Furthermore, the section provides for the Minister to designate the agency responsible for the management of wastes. Accordingly, the Solid Waste and Cleaning Agency (SWAC) was designated under the Environment Protection (Designation of Solid Waste Agency) Regulations (1995)²², which lays down the functions of this agency. SWAC is responsible for the management of wastes; the designation, monitoring and regulation of waste disposal sites; and the authorisation of the deposit and discharge of waste at the waste disposal sites. Following the restructuring of the Department, SWAC has been amalgamated with Landscape to create a new agency.

In relation to hazardous waste, Section 12 of the EPA states that no person shall dispose of any hazardous waste except in accordance with the authorisation of the agency²³. Under the EPA,²⁴ *hazardous substance* is defined as any substance or preparation which, by means of its chemical or physico-chemical properties or handling, is liable to cause harm to human beings, other living creatures, plants, micro-organisms, property or the environment. *Hazardous waste* is defined as waste that is poisonous, corrosive, irritant, noxious, explosive, inflammable, toxic or harmful to the environment.

The act states that no person is allowed to import any hazardous waste into Seychelles²⁵ or to transport hazardous waste within or through Seychelles or to export hazardous waste to any country without an authorisation from the agency or the prior informed consent of the receiving country without an authorisation from the agency²⁶. Moreover, the agency is responsible for regulating and transporting hazardous waste within and through Seychelles and for exporting hazardous waste²⁷. The management of hazardous waste is further dealt with under Part IV of the EPA and the EP (EIA) Regulations²⁸ which designate the manufacture, handling, storage and transportation of hazardous chemicals and substances as projects or activities requiring environmental authorisation²⁹.

Section 14 of the act provides for the management of hazardous substances. It states that no person shall handle³⁰ or cause to be handled any hazardous substance except in accordance with such procedures and after complying with such safeguards as may be prescribed. Accordingly, the following documents have been issued by the SBS: SBS 1994 SS 36 94 Code of Practice for Handling, Storage and Disposal of Hazardous Chemicals and other Agricultural Pesticides; SBS 1995 SS 45 95 Code of Practice for the Disposal of Hazardous and Radio-Active Waste.

Section 12 of the EPA furthermore states that no person shall deposit or discharge on any land or cause or permit to be deposited or discharged on any land, any waste except as authorised by the act³¹. Section 12(4) of

the act prohibits any person to throw, deposit or place any waste on or in any street or public place. Section 12(5) prohibits any person to drive any vehicle on any street or public place unless any load that is likely to litter or damage the street or public place is secured and packed in such a way that no part or content of the load may fall, escape or blow onto the street or public place. Where the contents of the load falls, escapes or is blown onto the street or public place, the driver shall be presumed to have failed to secure the load as required³².

The Environment Protection (Containers) Regulations³³ provide for the issuance of a permit for the possession or use of a container..

The Environment Protection (Restrictions on Plastic Bags) Regulations (2008) prohibit the manufacture, trade and commercial distribution of domestically produced and imported plastic bags below 30 microns within the Republic of Seychelles.

Public Utilities Corporation Act 1985

The Public Utilities Corporation (PUC) Act provides for the establishment of the PUC, a parastatal with a mandate to manage the supply of electricity and water and the treatment and disposal of sewage. The corporation has the authority to determine rights of access to any water supply extract from any source or to pollute any water. Only the corporation is permitted to divert or alter the course of any stream or river. In this case, the developer will need to seek approval from the corporation for any proposed diversion of watercourses. The latter is not encouraged.

The supply, control and management of sewage are provided by the **Public Utilities (Sewage) Regulations**³⁴. Owners of land outside sewered areas are required to use, install and maintain a private sewage disposal system. No one may use, install and maintain a private sewage disposal system in a designated sewerage area without permission from the corporation. The disposal method for sewage, solid wastes or non-domestic effluent must be under the direction of the corporation. The regulations also provide for the protection of surface water where pollution or misuse may occur.

Merchant Shipping Act 1992

The act provides for the Minister to make regulations for the protection of marine environment.³⁵

Merchant Shipping (MS) (Oil Pollution Preparedness and Response) Regulations, 2001

These regulations seek to give effect to the International Convention on Oil Pollution Preparedness and Response (OPRC), the International Convention on Civil Liability for Oil Pollution Damage (CLC), 1992, and the International Convention on the Establishment of an

International Fund for Compensation for Oil Pollution (FUNDS), 1992.

Maritime Zones Act 1999

The act seeks to provide for the determination of the maritime zones of Seychelles in accordance with the United Nations Law of the Sea Convention, 1982.

Maritime Zones (Marine Pollution) Regulations, 1981

These regulations enacted under the previous act provide for the protection and preservation of the marine environment and the prevention and control of marine pollution. The regulations prohibit the discharge of any oil or oily mixture into the territorial waters of Seychelles from any vessel, from any place on land and from any apparatus used for transferring oil from or to a vessel. The regulations impose a duty to report discharges to the harbour master. Pollution control officers may be appointed by the Minister and are given extensive powers to carry out their duties in pursuance of the regulations.

Harbour Act 1932 and Harbour Regulations 1933

The Harbour Act and Harbour Regulations seek to regulate shipping activities and to exercise a degree of control over vessels in Victoria Harbour. The regulations establish rules of safety to prevent spillage and pollution from vessels having on board petroleum as cargo, particularly when unloading petroleum.

Pesticides Control Act 1996

The act regulates the manufacture, distribution, use, storage and disposal of pesticides for the protection of public health and the environment. The act makes provisions for the establishment of the Pesticides Board. The act makes further restrictions to manufacture, import, export, sell, offer for sale, supply, use, store, transport, possess, dispose or otherwise deal with any pesticides. The act also makes provisions on the labelling of such chemicals.

Public Health Act 1960

Public health issues are dealt with under this act that includes provisions regulating nuisance and drinking water standards. The provisions and penalties under the act are outdated. A revision of the act has been ongoing since 2001.

Development

Part IV of the Environmental Protection Act and the Environmental Protection (Impact Assessment) Regulations³⁶

The regulations deal with EIAs. The legislation requires that an EIA study be carried out and that an

environmental authorisation be obtained before any person commences, proceeds with, carries out, executes or conducts or causes to commence, proceed with, carry out execute or conduct any prescribed project or activity in a protected or ecologically sensitive area³⁷. The criteria that establish the necessity of an EIA are found in the EP (EIA) Regulations, which list categories of projects or activities requiring environmental authorisation.³⁸

Schedule 1 of the EIA Regulations lists the prescribed projects and activities that necessitate an authorisation and these include activities falling within the following: mining, agricultural production, forestry, fish and associated farming products; chemical industries, industry (construction), food and agro-industries; energy production and distribution; water reservoirs and distribution, sewage and wastewater treatment systems, and solid waste management systems; the hotel industry (hotels, restaurants and tourism activities); transport (harbours, air transport infrastructure, roads and coastal defences); and land reclamation and housing development.

Schedule 2 of the EIA Regulations lists the protected or ecologically sensitive areas as follows:

Protected areas: national parks, special nature and wildlife reserves and other protected areas; historical sites and areas surrounding national monuments, sites, buildings and monuments; remarkable natural landscapes on Mahé, Praslin and La Digue; viewpoints; inter-urban buffer zones; water catchment areas; industrial risk areas on Mahé, Praslin and La Digue; natural risk areas; steep slopes; earth erosion areas; high elevations; and skylines.

Ecologically sensitive areas include the following: natural habitats for rare, protected or endemic species of flora and fauna; marshes and wetland habitats; streams and surroundings; coastal strips; beaches and inter-tidal zones; seabeds; and small and outlying islands.

A set of 13 environment assessment guidelines exist for the following sectors:

- Agriculture and Livestock
- Coastal Zone Management
- Construction
- Fisheries and Aquaculture
- Forestry
- Oil Resource Management
- Waste Management
- Transport
- Hull cleaning

Land Reclamation Act 1967

In Section 3(1), the Land Reclamation Act lays down the procedure to follow for a private or public reclamation of land by filling any foreshore. A person may object to any land reclamation under Section 5(C) of the act by

stating that the proposed reclamation may adversely affect either of the following: (a) any property owned; (b) public rights; and (c) the natural beauty of the coastal area. A person may object to any land reclamation under Section 5(C) of the act by stating that the proposed reclamation may adversely affect either of the following: (a) any property owned; (b) public rights; and (c) the natural beauty of the coastal area. Unfortunately, this does not cover all the environmental impacts or factors associated with land reclamation. Furthermore, Section 2(1) states that the President may authorise ‘any owner of land ... to fill in the whole or any portion of the foreshore which borders on the land belonging to such an owner.’

Other relevant legislation within that framework includes the following:

- Land Reclamation (Delegation of Statutory Functions) Order (1972)
- Land Reclamation (Amendment of Schedule) (1975)
- Land Reclamation (Amendment) Decree (1978)
- Land Reclamation (East Coast Development) Retrospective Authority Order
- Land Reclamation (Retrospective Authority) Order (1987)
- Land Reclamation (Amendment of Schedule) Rules (1988)

It must be noted that under the EPA 1994, land reclamation is listed as an activity that requires an environmental impact assessment.

Town and Country Planning Act 1972

Under the Town and Country Planning Act of 1972, planning permission is required for all forms of terrestrial development. The TCPA regulates land development. To that effect, no person shall carry out any building operations without a planning permission issued by the TCPA under the provisions of Section 3. It has been noted, however, that government organisations are exempt from seeking planning permission.³⁹

Under the act, the Minister may also issue tree preservation orders and building preservation orders respectively aimed at prohibiting the cutting down of trees within the area to be developed and the preservation of any building with architectural or historical interest.

Section 4 makes provisions for the preparation and adoption of a development plan for the whole of Seychelles. Such a development plan, which may include maps, shall specify areas for roads, public buildings and nature reserves, including open spaces. The plan is to be reviewed every five years. To date only two district development plans have been prepared.

Section 14 provides for the issuance of prohibition and stop notices in the case of illegal or unplanned developments. Additionally, Section 22 imposes abatement costs on the developer should the amenity of a particular area be affected (‘seriously injured’) by the stated development.

One of the conditions for development is that no building should be erected within 25 metres from the high water mark. This condition is mainly set to protect the sand dunes on the coasts from severe erosion. This is, however, only a policy decision and should be enshrined in the law.

Mining/drilling

Petroleum Mining Act 1976 and Petroleum Mining (Petroleum Drilling) Regulations 1980

The act deals with the exploration, prospecting and mining of petroleum. The regulations require that an effective system for combating oil pollution is maintained.

Petroleum Mining (Pollution and Control) Act 1980

The act provides for liability for pollution from petroleum during mining operations where such pollution results in any damage to land in Seychelles by contamination. Furthermore, Schedule 1 of the EIA Regulations lists mining as a prescribed activity requiring an EIA.

Removal of Sand and Gravel Act 1982

The Removal of Sand and Gravel Act 1982 controls the removal of sand and gravel. Following the impact of the activity on the beaches, a ban on the removal of sand from the beach and the plateau of Seychelles has been imposed. However, removal of gravel from rivers is still permitted subject to authorisation under the act although the act does not specify any criteria to be taken into consideration when such licenses are granted. The act does not cover the extraction of sand from the bottom of the sea although Section 3(2)(a) clearly states that prohibition includes abstraction of sand or gravel from any place, including the public domain.⁴⁰

Minerals Act 1991

The Minerals Act governs and defines minerals and their extraction within Seychelles. It specifies that the entire property in and control of all minerals in, under or upon any land in Seychelles or in all rivers or streams throughout Seychelles is vested in the Republic and the Republic shall have the exclusive right of prospecting and mining for such minerals (Section 3). Section 6 provides for mining rights in the form of a special mining lease granted by the Minister. However, the definition of *minerals* does not include coral, sand or sediments.

Lighting of Fires

Section 182 of the Penal Code

Burning permits are issued by the DOE under these provisions which make it an offence for any person to voluntarily vitiate the atmosphere in any place so as to make it noxious to the health of persons in general dwelling or carrying on business in the neighbourhood or passing along a public way. Penalties under the Penal Code need to be revised to reflect the gravity of offences.

Lighting of Fires (Restriction) Act 1940

This act requires that permission be sought to burn in a declared area. The act should, however, be revised to apply to Seychelles as a whole as it currently applies to Praslin only.

Fire Protection Act 1902

This act offers protection to properties and infrastructure.

Species protection

Wild Animals and Birds Protection Act 1961

The act and its subsequent regulations provide for the protection of animals and birds species. The protected species are the Seychelles Pond Turtle; Giant Land Tortoise (*Geochelone gigantea*); Green Turtle (*Chelonia mydas*); Hawksbill Turtle (*Eremochelys imbricate*); any other turtle which from time to time may be found in the territorial waters of Seychelles; and the Whale Shark (*Rhincodon typus*). Wild land and sea birds⁴¹ are also protected in designated nature reserves..

Birds' Eggs Act 1933

This act regulates the collection of eggs of the following birds: Sooty Tern (*Sterna fuscata nubilosa*), Common Noddy (*Anous stolidus pileatus*) on all islands except Desnoeuufs (unlimited amount/per year), L'Illet Fregate (70,000/per year) and Bird (30,000/per year).

Fisheries Act 1986 (as amended by Act 3 of 1997 and Act 2 of 2001) and Fisheries Regulations 1987

The Fisheries Act offers protection for shells in designated shell reserves. Unworked shells cannot be purchased, sold, offered or exposed for sale, with the following exceptions: *bernique*; *bigorneau*; *burgot*; *chicoret*, *hache d'ames*; *huître* (edible); *huître* (mother-of-pearl); *mouque*; octopus; *palourde*; squid; and *tec-tec*. The Triton Conch Shell (*Charonia tritonis*) is offered absolute legal protection. A permit is required from the SFA for the possession of more than 20 kgs of shells. Permission is required from the SFA and the Commissioner of Police to blast coral or coral reefs. The act prohibits the fishing of mackerels with nets before 5 am or after 4 pm and shark fishing with nets. The act offers protection to *homard*⁴² in a buried state; any

female crustacean⁴³ in buried state; any protected aquatic organism that is caught unintentionally and any marine mammal. Permits from the SFA are required to fish the following: *homard* (closed season: 1 February to 31 October⁴⁴/ cannot fish in shell reserves/must be over 7.5 cm in length) and sea cucumbers.

The act has been revised and is awaiting the approval of the National Assembly.

Coco-de-Mer (Management) Decree 1978 (as amended by Act 10 of 1994)

This act provides for the management of the coco-de-mer nut (*Lodoicea maldivica*). The provisions of the Coco-de-Mer Management Decree are outdated and insufficient for the effective management and control of coco-de-mer in the country. Amendments have been proposed to the cabinet and a new law that will effectively control trade and the management of the species has been proposed.

Breadfruit and Other Trees (Protection) Trees Act 1917

This act provides for the protection of 30 species of plants for which permission must be sought from the DOE before felling, lopping or similar activities. The act fails to offer protection to endemic and endangered species. The review of the act has been long overdue.

Protection against pests

Animal (Diseases and Imports) Act 1981

The act provides for the management of infectious diseases and quarantine for animals.

Plant Protection Act 1996

The act provides for the prevention of importation and spread of plant pests and diseases; for the regulation of the importation of beneficial organisms and the export of plants and plant products in the country so as to better protect the agricultural and forestry resources and ecological environment of Seychelles.

Protected areas

Forest Reserves Act 1955

The act provides for the declaration of a site as a forest reserve. The act prohibits the destruction of a forest reserve without authorisation from the designated authority. To date, no area has been declared a forest reserve.

National Parks and Nature Conservancy Act 1969

The act provides for the designation of a protected area as Area of Outstanding Beauty; National Park, Special

Reserve; and Strict Nature Reserve. The following areas have been designated:

- Marine National Parks: Ste Anne; Baie Ternay; Curieuse; Port Launay; and Silhouette
- Special Reserves: Aride Island, Cousin Island; Aldabra; La Digue, Veuve.
- National Parks: Morne Seychellois; Praslin; and Ile Cocos, Ile La Fouche, Ilot Platte
- Area of Outstanding Beauty: Grand Anse.

Regulations for the management of designated areas have been made, except for the following areas: Aldabra; Morne Seychellois; Praslin and Grand Anse.

State Land and River Reserves Act 1903

The State Land and River Reserves Act provides for the protection of state land as well as river reserves through the protection of trees and brushwood on riverbanks for a distance of between three to 16 metres on either side of the river, depending on altitude and flow. However, these rules are not always respected in practice⁴⁵.

Licences Act 1986

The act establishes the Seychelles Licensing Authority which licences activities in the interest of public welfare, safety and health. The schedules to the act list activities that require licensing.

ENFORCEMENT PROVISIONS

This section makes specific reference to the enforcement provisions of environment legislation.

Environment Protection Act 1994

The enforcement provisions of the act are found in Part V. It provides for the issuance of enforcement notice (S 16); prohibition notice; variation notice (S 18); and withdrawal notice (S 19) where the provisions of the act are being contravened. Authorised officers may be appointed under the act and the EP (Miscellaneous) Regulations confer various powers of these officers depending on their functions and posts. Powers of entry, inspection and seizure (S 22) and the power to take samples for the purpose of analysis (S 25(1)) are given to officers from the Environmental Assessment and Pollution Control Unit of the DOE; from the Marine Parks Authority; commissioned officers of the Seychelles Coastguards, police officers of and above the rank of sub-inspector; and coxswains and marine mechanics of the Port and Marine Services Division. The procedures for the taking of samples are laid down in S

25. Results of any analysis of samples so taken are admissible as evidence in any legal proceedings. Samples must be analysed by an environmental laboratory established by the act (S 25(3)(d); S 26). Laboratories so established are the public health laboratory of the Ministry of Health, the laboratory section at the PUC, the environmental laboratory at the SBS and the Soil and Diagnostic laboratory at the Ministry of Agriculture and Marine Resources.

Any police officer or environment inspector of the DOE of the level of Grade 1 and above has the power to arrest, without a warrant, any person reasonably suspected of contravening the act where an environmental emergency has been declared under the act (S 24).

According to Section 29(b), authorised officers may offer the opportunity of discharging liability by paying a fixed penalty notice of SR200 to a person they reasonably believe to have littered in a public place; or, under Section 12(4)(a), driven a vehicle with an unsecured load which has littered or damaged the street or public place or is likely to do so. Among the officers so designated are the PS; DG; staff of EAPC not below the level of Grade III; staff of the conservation section not below the level of Grade II; staff from Forestry including \forest \rangers Grade I and II; senior or assistant education and information officers from E&I Unit; and staff from Landscape Management Division.

The DOE, as the authority under the EPA, is empowered to collect information required for any purposes of the act (S 37).

Wild Animals and Birds (Protection) Act 1961 (as amended by Act 9 of 2001)

The 2001 amendment has introduced a provision that authorises a police officer who has reason to believe that a person has committed an offence under the act to seize and detain any boat, vessel or vehicle believed to have been used in the commission of the offence and that lays down the procedure to follow (S 2A). Wardens of nature reserves may be appointed by the President, and he may direct them to reside in the nature reserve. These wardens have the power to enter upon, visit and inspect any declared nature reserve (Regulation 4 Wild Birds Protection (Nature Reserves) Regulations, 1966). The following islands have been declared as nature reserves: Beacon or Ile Sèche; Booby or Ile aux Fous; Boudeuse; Etoile; King Ross or Lamperiaire; Les Mamelles; North Cousin or Cousin; and Vache Marine. The Vallée de Mai has been declared as a nature reserve under the Wild Birds Protection (Nature Reserves) Regulations, 1966.

Birds' Eggs Act 1933

Powers of seizure are given to any officer of the Department of Agriculture (who at the time had portfolio responsibility

over such matters) and to the police. They are empowered to seize where there are sufficient grounds to suppose that they were used in the commission of an offence under the act. The court may order any eggs obtained in contravention of the act or any boat, fishing tackle, appliance or article to be sold by auction (S 5). Any government or police officer has the right to enter, remain in or visit and inspect any island or place where birds' eggs are laid and deposited for the purposes of enforcing the act. Any customs officer, officer of the government or police officer has the power to search and inspect any vessel and any boxes or articles found on the vessel when they have reason to believe that there are eggs on board (Regulations 8 and 9, Birds' Eggs (Collection) Regulations, 1972).

National Parks and Nature Conservancy Act 1969

An honorary park warden may be appointed under the act (NPNCA, paragraph 6 of the Schedule)⁴⁶. An honorary warden or any officer of the Commission (DOE/SCMRT-MPA) or police officer has the power to arrest any person committing an offence under the act or any offences committed under the Fisheries Act, the Wild Animals and Birds (Protection) Act or the Birds' Eggs Act (S 14). An honorary warden, any officer of the Commission or police officer may seize any boats, nets, spear guns or other vessels or articles believed to have been used in the commission of offence under this act and under any acts listed above (S 15).

National Parks (Ste Anne Marine) Regulations, 1975 (as amended SI 43 of 1997)

Powers of the Commission have been transferred to the Marine Parks Authority (MPA). The MPA may remove and destroyed unlicensed *casiers* found within the National Parks (Regulation 13).

National Parks (Port Launay Marine) Regulations, 1981

The Commission may remove and dispose as it thinks fit an unlicensed *casier* or one found in a prohibited area⁴⁷ of the national park (Regulation 13). An officer or agent of the Commission or a police officer may board and inspect a craft in the national park when he or she has reasonable grounds to believe these regulations are being contravened.

National Parks (Aldabra Special Reserve) Regulations, 1981

The warden is the Seychelles Island Foundation (SIF) officer appointed in agreement with the Commission to manage and be in charge of the reserve. The warden or an officer of the SIF or a police officer may board and inspect a craft in the reserve when he or she has

reasonable grounds to believe these regulations are being contravened.

National Parks (La Digue Veuve Special Reserve) Regulations, 1991

The warden is an officer of the Commission appointed under the act (NPNCA, paragraph 6 of the Schedule). The warden or a police officer may, without warrant, arrest any person found committing any offence under these regulations. He or she also has the power at any time, within or in the vicinity of the reserve, without a warrant, to stop and search any vehicle when he or she has reasonable belief it was used in connection with the commission of an offence under these regulations (Regulation 11).

National Parks (Curieuse Marine National Park) Regulations, 1991

The warden is an officer of the Commission appointed under the act (NPNCA, paragraph 6 of the Schedule). The warden or a police officer may, without warrant, arrest any person found committing any offence under these regulations. He or she also has the power at any time, within or in the vicinity of the national park, without a warrant, to stop and search any vehicle, vessel or craft when he or she has reasonable belief it is or has been used in connection with the commission of an offence under these regulations (Regulation 14).

National Parks (Ile Cocos, Ile La Fouche, Ilot Platte) Regulations, 1997

The warden is an officer of the Commission appointed under the act (NPNCA, paragraph 6 of the Schedule). The warden or a police officer may, without warrant, arrest any person found committing any offence under these regulations. He or she also has the power at any time, within or in the vicinity of the national park, without a warrant, to stop and search any vehicle, vessel or craft when he or she has reasonable belief it is or has been used in connection with the commission of an offence under these regulations (Regulation 14).

National Parks (Baie Ternay Marine) Regulations, 1997

The MPA may remove and dispose as it thinks fit an unlicensed *casier* or one found in a prohibited area⁴⁸ of the national park (Regulation 13). An officer or agent of the MPA or a police officer may board and inspect a craft in the national park when he or she has reasonable grounds to suspect these regulations are being contravened (Regulation 16).

State Land and River Reserves Act 1903

Forest rangers may be appointed by the President and enforce the provisions of the act or any law dealing with

woods and forests and state land and river reserves. Keepers may also be appointed to assist forest rangers in their duties (S 26 and S 27).

Coco-de-Mer Management Decree, 1978

The owner, manager overseer or agent of any property may arrest a person on his or her property if he or she has reason to suspect the person to be in possession of a stolen or unlawfully obtained mature coco-de-mer nut. Police officers have the power to stop and search any motor vehicle, boat or other conveyance to ascertain whether any mature nuts are being transported and to demand a permit for nuts that are found. The police have the power to arrest the person transporting any mature nuts if there is reasonable cause to suspect the nuts were stolen or unlawfully obtained (S 32). Any police officer has the power to enter the premises of a licensed dealer to inspect the purchases and sales book and approved labels and to take away and retain the book, approved labels and mature nuts for police enquiry (S 45).

Fisheries Act 1987 (as amended by Act 3 of 1997 and Act 2 of 2001)

Designated authorised officers from the SFA and the Seychelles Coastguards are granted enforcement powers under the act.

Licences Act 1986

Upon receiving any complaint, the Seychelles Licensing Authority (SLA) may investigate and take suitable action against the licensee. The SLA may order the closure of any premises for any breach of the conditions of a license with the assistance of a police officer, a public official or any other person.

Public Health Act 1960

Medical officers of health and environmental health officers duly authorised under the act have the power to enforce its provisions.

Institutional framework addressing the management and enforcement of environmental crime

This section details the institutional framework involved in the management, detection or enforcement of environmental crime in the country, which includes government institutions, agencies, parastatals, NGOs and private organisations in Seychelles. The major government institutional reshuffling that is currently underway makes it difficult to ascertain the exact number of staff dedicated to environmental crime monitoring- and enforcement-related activities within government and parastatal organisations...

DEPARTMENT OF ENVIRONMENT

The DOE is the main body enforcing environmental protection-related legislation in the country. The DOE comprises several divisions and sections and their details are discussed in the following section.

The **National Park and Forestry Section** is responsible for the management and enforcement of forest-related activities, including the felling and lopping of trees protected under legislation and the management of burning activities through the issuance of permits. It also manages and regulates the trade of the coco-de-mer nut. The section has a staff of less than 50 members with forestry stations at Le Niolle, Grand Anse, and Sans Soucis on Mahé. It also has offices on Praslin and La Digue with a staff of 12 responsible for enforcement activities on both Praslin and La Digue. A focal point for environmental issues is based on Praslin and La Digue.

The **Conservation Section** under the Division of Nature Conservation consists of three units. The Project Unit is responsible for the initiation and follow-up on the implementation of projects. The Conservation Unit is responsible for the policy aspect of wildlife conservation, including the management of international instruments,

and is the focal point of several MEAs such as CITES, Convention on Migratory Species (CMS), CBD and the Cartagena Protocol, to which the country is party. The Marine Unit is responsible for marine and assists other divisions of the department in environmental assessment. The section presently has a staff of eight.

The **Legal Unit** has two university graduates (one LLB/Bar and one LLM) and one secretary. The unit is involved in the preparation and implementation of environmental legislation and the processing of environment-related (criminal) cases.

The **Environmental Police Unit**, established in 2008, is the enforcement unit of the DOE with a staff of six. Its powers are limited to enforcing S 12(4)(a) and (b) EPA by issuing fixed penalty notice of SR500 (S 29(b)) within Victoria and enforcing the new law banning the use of plastic bags of less than 30 microns. Other cases are dealt with only with prior approval. Only the head of the unit has been designated as an authorised officer under the EPA. These powers need to be extended to other officers of the unit.

The **Ozone Unit** within the Ministry of Environment is involved in the implementation of the Montreal Protocol and the EP Ozone Regulations in the country. The unit has two part-time staff, one from the meteorological office and one refrigerant technician from the Seychelles Institute of Technology. The unit receives assistance from other government agencies, for instance the Seychelles Licensing Authority, Imports Section and Customs Office within the Ministry of Finance.

The **Education, Information and Communications Section's** main responsibility includes implementing the Ministry's policy regarding education, information, and communications to the public on the need to protect, preserve, and improve the environment. The section handles

calls made to the green line and processes these to the relevant departments within the Ministry for further action.

The Pollution Control and Environmental

Impact Division comprises the Pollution Prevention and Control Section and the Environmental Impact Assessment (EIA) Section. The Division's work involves inspectorate functions with linkages to other sectors such as agriculture, land use, health and marine.

The functions of the division are to implement the Environment Protection Act and its regulations and related policies, laws and programmes. The mission of the division is to prevent and abate pollution. The focal points for the Basel, POPs and PIC Conventions are based within this division and their functions are to coordinate policies for follow-up negotiations, implement activities related to the convention and liaise with the convention secretariat, monitor and evaluate convention-related activities, and disseminate relevant information among related agencies/NGOs. The

Pollution Prevention and Control Section conducts monitoring and enforcement activities on the prevention and abatement of environmental pollution; the monitoring and collection of samples, laboratory testing and collection of data on air, water, marine and noise pollution emissions and ambient quality; and the collection and submission of appropriate evidence on violations of the law. Presently the section has a staff of three involved in the identification, monitoring and control any form of pollutants. The section has no university graduates. The **Environmental Impact Assessment Section** has a staff team of ten including senior project officers, project officer, and three secretariat staff. The section has three graduates with a first degree. They enforce the EPA 1994 and the EP EIA Regulations, 1996, and other relevant and related legislation and advise on development proposals to ensure that development takes place with minimal negative environmental impacts. The entire division does not have any staff on Praslin and La Digue and staff from Mahé have to travel there to assist when incidents occur.

The **Solid Waste and Cleaning Agency (SWAC)** has been integrated within the DOE. It is responsible for the management of wastes; the designation, monitoring and regulation of waste disposal sites; and the authorisation of the deposit and discharge of waste at the waste disposal sites. The agency currently has six inspectors and one senior inspector. The agency has no university graduates.

The **Environmental Engineering and Wetlands Section** deals mostly with coastal engineering matters, such as coastal erosion and drainage and wetlands issues. The Environmental Engineering Unit section has a staff of ten which includes three members responsible for the Wetland Unit. Most of them are involved in enforcement..

The newly formed **Agricultural Agency** is responsible for agriculture, livestock production, plant protection and veterinary services within the country and is divided between the Veterinary Section and the Plant Protection Section. The **Veterinary Section** enforces legislation on the importation of poultry, livestock and pets, such as cats and dogs, into the country. The section has a staff of four with limited presence at the airport and sea port and relies on the Plant Protection Section and other agencies for assistance. The **Plant Protection Section** enforces the provisions of the Plant Protection Act, regulating the import and export of plants into the country. The section is the focal point for the International Plant Protection Convention (IPPC). Importations and exports are based on existing international standards. The section is made up of a staff of approximately ten and they always have permanent presence at the airport and sea port..

The Ministry of Environment, Natural Resources and Transport is the parent ministry to several agencies: the SCMRT–Marine Parks Authority; Seychelles Fishing Authority, Island Development Corporation and Water and Sewerage Division of the Public Utilities Corporation.

SEYCHELLES FISHERIES AUTHORITY (SFA)

The Fisheries Monitoring Control and Surveillance Section (MCS) within the SFA hosts the enforcement unit and the Fisheries Monitoring Centre. The duties of the enforcement staff are to inspect all foreign fishing vessels and local fishing vessels participating in a closely monitored fishery; collect all catch and effort logbook/ log sheet from the master fishing vessels; collect and collate trans-shipment data; and oversee trans-shipment activities when required. The Fisheries Monitoring Centre is involved in vessel monitoring systems (VMS); the cross-checking of position reports received from vessels: and the cross-checking of catch and effort log book data received from fishing vessels with VMS data to validate trade scheme certificates. The centre also assists the Seychelles Coastguards and Seychelles Police in the apprehension of vessels fishing illegally and provides VMS evidence in legal matters. The MCS employs 17 personnel; five work directly with the fisheries monitoring centre and seven within the inspectorate (enforcement) section. Compliance with the Indian Ocean Trade Commission (IOTC) and the Food and Agriculture Organisation (FAO) requirements has increased the SFA's efficiency in combating illegal, unreported and unregulated (IUU) fishing. However, as people rarely report illegal activities unless it directly affects them, and some even encourage illegal activities for financial gain, stakeholder and even public input is necessary in the fight against IUU.

SEYCHELLES CENTRE FOR MARINE RESEARCH AND TRAINING–MARINE PARKS AUTHORITY (SCMRT–MPA)

SCMRT–MPA is the designated body that manages the five marine protected areas.⁴⁹ SCMRT–MPA currently manages marine national parks. The management functions are expected to extend to terrestrial national parks following the creation of the new National Park Authority, whilst the research functions will be dealt with by the University of Seychelles once it is up and running.

SEYCHELLES PORTS AUTHORITY

The Seychelles Ports Authority oversees the administration of the harbour and port area and collaborates with the DOE, the Police and other stakeholders such as the veterinary services, SLA, and Land Marine in cases of environmental crime, particularly pollution and oil spills within the port area.

SEYCHELLES MARITIME SAFETY ADMINISTRATION

This section oversees the issue of maritime safety within the country and the region.

SEYCHELLES COAST GUARDS

The Seychelles Coast Guards undertake enforcement activities within the territorial waters of Seychelles in close collaboration with the Police, DOE and other stakeholders involved in the enforcement of environmental crime in the country.

CUSTOMS DIVISION

The Customs Division within the Ministry of Finance cooperates with the Police and the DOE in the detection of environmental crimes. Staff from the division has undergone training to assist in the detection and identification of ozone-depleting substances (ODS). Provisions have been made under the National Implementation Plan for the Stockholm Convention to provide knowledge and guidance documents for customs officers in order to improve the detection of persistent organic pollutants (POPs).

MINISTRY OF NATIONAL DEVELOPMENT

The Ministry of National Development (MND) is responsible for land use planning and development; it also grants licences for certain activities concerning natural resources, such as sand and gravel extraction and quarrying.

SEYCHELLES LICENSING AUTHORITY (SLA)

The Seychelles Licensing Authority (SLA) issues and manages licenses for all the economic sectors of the country. The authority may grant or refuse, suspend or revoke any license, or impose any conditions necessary, and upon receiving any complaint may investigate and take suitable action against the licensee. The authority may order the closure of any premises for any breach of the conditions of a license, and may obtain the assistance of a police officer, a public official or any other person to use such force as may be necessary to effect the closure of the premises. The SLA works in close collaboration with the DOE in managing and enforcing the Coco-de-Mer Management Decree and the EPA.

ENVIRONMENTAL HEALTH OFFICERS WITH THE MINISTRY OF HEALTH

These health officers work in close collaboration with the Pollution Control Unit within the DOE to enforce provisions of pollution-related legislation and particularly nuisances and issues of public health.

NON-GOVERNMENTAL ORGANISATIONS

- The **Seychelles Islands Foundation (SIF)** manages the Vallée de Mai and Aldabra, both protected areas. Both sites host numerous protected species and have been designated as World Heritage Sites by UNESCO. The SIF has a total of 35 staff comprising rangers and four security officers. The SIF cooperates with government agencies and civil society organisations in carrying out its duties but believes that this cooperation needs to be enhanced. Furthermore, the organisation is of the view that an evaluation of the effectiveness of its institutional framework needs to be undertaken.

Nature Seychelles is affiliated with Birdlife International. It is involved in biodiversity-related activities on Mahé and other islands, such as bird and turtle monitoring and staff training. Nature Seychelles manages Cousin Island, which has been designated as a Special Reserve under the National Park and Nature Conservancy Act (NPNCA).

- The **Marine Conservation Society of Seychelles (MCSS)** undertakes specific monitoring and research programmes in close collaboration with other institutions and private islands (for instance cetacean and whale shark monitoring and data collation, beach erosion and turtle monitoring). The MCSS has trained

staff in turtle monitoring and data collation under the Strategic Management of Turtles programme.

- The **Island Conservation Society of Seychelles (ICS)** is an environmental NGO undertaking conservation works on several islands. It is responsible for the management of Aride Island, which has been declared a Strict Nature Reserve under the NPNCA, and undertakes conservation works on a number of islands, for instance North Island Resort. The ICS encounters mainly poaching incidents of birds and birds' eggs on Aride during the breeding seasons. ICS has a staff comprising the following: one warden, one assistant warden from the United Kingdom; four local rangers; two overseas volunteers for three months; and, presently, two long-term volunteers. ICS/SCMRT-MPA are involved in a regional Marine Protected Areas project funded by the Intergovernmental Oceanographic Commission (IOC) and WWF, which plans to install radars off the islands of Curieuse and Aride to enhance monitoring in the area. The ICS has signed a memorandum of understanding (MOU) with the Islands Development Company (IDC) to undertake biodiversity management and environmental monitoring activities on outer islands. One example is that of Alphonse where the ICS has three permanent staff for

a period of two years, and they also cover the islands of Bijoutier and St Francois. These officers do not have any enforcement powers and have to rely on DOE staff and the police from Mahé.

- The **Green Island Foundation** is involved in the management and conservation of biodiversity and is currently involved in such activities on Denis Island.
- The **Nature Protection Trust of Seychelles** is an environmental NGO involved in conservation works on Silhouette. The NGO will undertake more management responsibilities of protected areas following the declaration of part of the island.

NETWORKS

An Anti-Poaching Committee comprising institutions involved in the detection and enforcement of environmental crime, such as the DOE, Customs and Police, was set up in the past but is now defunct. This initiative should perhaps be reinitiated.

Other networks exist, such as the Seychelles Seabird Group comprising conservationists on islands, and organisations⁵⁰ involved in bird conservation and management, such as the Seychelles Magpie Robin Recovery Team (SMART).

Nature and extent of environment crime

Environmental crime is quite diverse in Seychelles, the nature of which is illustrated in the following figure.

The major constraint in assessing the extent of environmental crime in Seychelles is the lack of available data. Collection of data by institutions involved in either the enforcement or management of environmental crime is done in various ways. Institutions that have international reporting obligations do collect information regularly and in a succinct manner. Some organisations collect their data in a systematic manner, for instance recording the data and number of incidents. Reporting of incidents by some organisations is done periodically, for

instance through monthly reports. Other organisations, especially on outer islands, will have to set up a reporting mechanism. Others collect information in an ad hoc manner or do not keep any record of incidents at all. All institutions involved in the detection and enforcement of environmental crime refer their incidents to the DOE for follow-up. The Legal Unit does not keep any record of cases it receives and this makes it virtually impossible to know the exact number of cases of environmental crime that have occurred over any period of time. It is unclear how the Legal Unit and the other sections of the DOE coordinate follow-up action.

Despite the limited information available, there is, however, some indication of the extent of environmental crime within the country based on documentation and files maintained by certain organisations. It is therefore imperative to establish a mechanism to determine the exact extent of environmental crime in the country and to establish procedures for the collection, storage and retrieval of data and methods to channel and follow up cases..

Pollution remains the main illegal activity. Table 4 shows the number of cases recorded in 2008 for the illegal discharge of waste and littering.

Littering in public places is one of the most common offences. Fixed penalty notices are issued by authorised officers who under the EPA have the power to offer a person believed to have littered in a public place or driven

Figure 1 Nature of environmental crime in Seychelles

- Poaching: turtles; tortoises; birds and birds' eggs; plant species, including coco-de-mer; corals
- Illegal felling/lopping of trees
- Fishing in protected areas; prohibited zones
- Fishing with illegal equipment, e.g. unlicensed nets (for instance mackerels);
- Shark finning
- Poaching sea cucumbers; *homard*; mammals, for instance dolphins
- Sand and gravel extraction
- Illegal trade in CFC equipment
- Illegal transportation and dumping of hazardous waste
- Littering
- Nuisance: smoke; smell; noise
- Illegal burning
- Clearing of vegetation, for instance from the marsh
- Illegal development/reclamation
- Illegal discharge of polluting substances including oil in river/sea; onto land
- Derelict vehicles
- Illegal transportation and dumping of hazardous waste
- Illegal introduction of animals, plants and other agricultural materials

Table 4 Pollution cases 2008

Type	Amount
Illegal discharge of waste	40
Oil spill	4
Littering	209

Table 5 Fixed penalty notices issued in 2007 and 2008

Year	Amount Issued	Outcome	Amount
2008	209	Paid	122
		Sent to legal officer	65
		Cases not proceeded with	7
		Outcome unclear	15
2007 (Oct-Dec)	111	Paid	67
		Sent to legal officer	16
		Cases not proceeded with	11

a vehicle with an unsecured load which has littered or damaged the street or public place or is likely to do so, under S 12(4) (a) and (b), the opportunity of discharging liability by paying a fixed penalty notice of SR500 (S 29(b)).

Table 5 indicates the extent of the problem by showing the number of fixed penalty notices issued between October and December in 2007 and in 2008, which amounted to 111 and 209 respectively.

Pollution incidents consist mainly of the discharge of waste onto land and into the territorial waters of Seychelles and occur mostly within the Victoria Harbour area and along the East Coast industrial area. The main pollution sources are land based, for instance power generation, fish processing, municipal wastewater, industrial effluent treatment systems, production of water, desalination plants, manufacture of solvent-based paints, ship repair, abattoirs and garages. Pollution also comes from local and industrial fishing vessels, floating debris and bulk loading and unloading at the harbour, particularly of oil and tuna within the Port Victoria area.⁵¹ Several incidents of oil spill have been recorded..

Certain reported incidents are related to development. In 2008, ten cases of illegal construction were reported. They consisted mostly of the reclamation of wetland and marshes for agricultural and construction activities, as well as sand extraction without permission from the authorities. Other cases were reported where authorisation had been granted with disregard for existing laws and regulations, such as development and pollution caused by hotel developments in protected areas.

Despite regulations being in place, there are recorded incidents of illegal importation of CFC equipment into the country, as indicated in Table 6. The equipment is either seized or reshipped on command.

Incidents related to hazardous waste are few; however, toxic leaks from containers and within the port area do occasionally occur, for instance the incident of leaking ammonia in 2008. There was one case of illegal disposal of hazardous waste in 2008 when the DOE failed to take appropriate action..

The poaching of protected species does occur and mostly within protected areas, particularly during the nesting and breeding seasons. For example, 11 poaching incidents of birds and birds' eggs occurred on Aride during the breeding season of June 2008.

Coco-de-mer nuts are also the target of poachers. In 2008 there were three recorded cases of coco-de-mer poaching and one case of illegal possession of a mature nut. Stolen coco-de-mer nuts may be sold locally to producers or the kernels may be exported, primarily to Singapore where one kilogram of dried coco-de-mer kernels may cost as much as 100 USD. To date the law does not regulate the export of kernels and legislative amendments have been submitted to the Cabinet to remedy this lacuna in the law.

Poachers are linked to other illegal practices such as the theft, destruction and tampering of boats and engines, equipment and mooring buoys; they are even involved in illegal drugs, sometimes with the complicity of staff.

Offenders are often involved in the poaching of several species; for instance, coco-de-mer poaching incidents occur between December and June coinciding with the export period and are linked to shark fin and sea cucumber exports. This fact leads one to believe that poaching is organised into a much wider network than that of the individual poachers normally apprehended.

Between 2000 and 2008, 36 cases of illegal fishing were reported. This number includes cases of fishing in protected areas or prohibited zones; fishing with illegal equipment, for instance unlicensed nets (in the case of mackerel); shark finning; and the poaching of sea cucumbers.

Table 6 Illegal CFC equipment imported between 2008 and 2009

Year	Amount
2008	2
2009 (Jan-March)	1

Table 7 Poaching incidents in 2008

Type	Amount
Poaching incidents of birds and birds' eggs	11 (8 to 20 June)
Turtle poaching	6
Terrapin poaching	1
Dolphin	1
Coco-de-mer poaching	3
Illegal possession of coco-de-mer	1
Illegal felling of protected trees	9
Illegal harvesting of protected trees	3
Illegal fishing	6
Sand poaching	2

Illegal felling and harvesting of species protected under the Breadfruit and Other Trees (Protection) Act have been recorded. During 2008, five cases of illegal felling and two of illegal harvesting were recorded.

Table 7 indicates the number of poaching incidents that occurred in 2008.

The poaching of protected or regulated species is prevalent in protected areas that are not currently managed, for instance Booby Island and the vicinity of outer islands. A proposal has been made to have fishery reserves for one nautical mile around outer islands where permits will be required for fishing, which could alleviate the problem. Furthermore, outer islands with no human presence are potential harbours of illicit activities such as drug trafficking.

When a report is received of a particular crime being committed in these areas, the assistance of other organisations has to be sought, such as that of the Seychelles Coast Guard, to assist with transportation and other logistics. However, these always come at a cost and funds have to be sought elsewhere to pay for the trip since it is never budgeted for.

Apart from poaching, illegal activities within protected areas include anchoring in prohibited zones; engaging in motorised sports; and the lighting of fires, especially for barbecues, in protected areas.

Burning without a permit is a common occurrence. In 2008 five cases were recorded with incidents that have resulted in several hectares of forest being burnt on the islands of Praslin and Ste Anne Island.

There have been several cases of the illegal introduction of pests that have been detrimental to the environment as well as to the economy of the island. For example, the Wilt disease reported in 1998 led to the death of 99 per cent of *Pterocarpus indicus* in Seychelles, particularly in catchment areas. This species is thought to have turned to the *Callophyllum inophyllum*, a native species that is distributed mostly along the shorelines and that gives protection against coastal erosion. The introduction of the melon fly (*Bactrocera cucurbitae*) in 1999 has affected 60 per cent of cucurbit crops valued over 4.1 million USD. More recently, two strains of white flies have been introduced. Introduction of animal species also occur, such as that of the Green Parakeet which poses a potential threat to the endemic Seychelles Black Parrot. In most cases, however, these animals are destroyed by the authorities.

Procedure for reporting cases

Incidents are reported in several ways. Incidents are reported through the green line (54 complaints received in 2008). These cases are channelled to the relevant authorities, which are either within the DOE or outside agencies. Incidents are also recorded by enforcement authorities such as NGOs, private islands and agencies and these cases are forwarded to the DOE either through the Legal Unit or the relevant section, for instance Conservation, Forestry or EAPC. Statements are also made to the Seychelles Police. Cases are then forwarded to the AGs for prosecution by the Legal Unit or the relevant DOE section. The Legal Unit within the DOE follows up with the Police and AG's Chambers.

The outcome of cases submitted to the AG's Chambers between 2006 and 2008 is shown in Table 8:

Authorities generally resort to other mechanisms such as out-of-court settlements. Table 9 indicates the number

of out-of-court settlements in 2008. The offenders were mostly hotels and they were charged with the illegal discharge of wastewater (12); docked ships causing oil pollution in the marine environment (3); illegal felling of trees (3); and illegal fishing. All six cases of illegal fishing recorded in 2008 were settled out of court.

Table 9 Out-of-court settlements 2008

Type	Amount
Illegal felling of trees	3
Illegal discharge of wastewater	12
Oil spill	1
Illegal fishing	6

Table 8 Cases submitted to Attorney General's Chambers between 2006 and 2008

Year	Total No. of Cases	Fined	Notices Complied With	Uncertain	Closed/ withdrawn	Forwarded for further action	Files returned with instructions
2006	28	1	10	14	3	0	0
2007	22	0	6	13	2	1	0
2008	43	4	4	28	0	0	7

Challenges in enforcing environmental crimes in seychelles

INADEQUATE INFORMATION AND DATA MANAGEMENT SYSTEMS

Data collection on environmental crimes is one of the major constraints facing the enforcement of environmental laws, especially as it relates to collecting, storing and retrieving data.

Institutions having international reporting obligations, such as the Ozone Unit under the Montreal Protocol and the SFA, were found to have an established mechanism to collect data. However, the majority of the other environmental agencies did not keep any record of incidents of environmental crime..

All institutions involved in the detection and enforcement of environmental crime refer their incidents to the DOE for follow-up. How the Legal Unit and the other sections of the DOE coordinate follow-up action was unclear. Procedures need to be established on how cases are channelled. The Legal Unit does not keep any record of cases it receives making it virtually impossible to know the exact number of cases of environmental crime that have occurred over any period of time. There is a need to establish a mechanism for the collection, storage and retrieval of information on environmental violations within the DOE Legal Unit and other institutions involved in the detection and enforcement of environmental crime. This will be further enhanced by the establishment of a mechanism to foster and sustain partnerships between the government and private agencies and civil society organisations in addressing the enforcement of environmental regulations, taking into account existing partnerships, for instance the Anti-Poaching Committee. The synergy between law enforcement agencies could be improved with the establishment of a focal point for environmental affairs within the Police Department and perhaps also within the AG's Chambers.

LACK OF ADEQUATE INSTITUTIONAL CAPACITY TO ENFORCE ENVIRONMENTAL CRIMES

The institutional framework addressing the management, detection and enforcement of environmental crime in Seychelles is wide ranging and comprises government agencies, NGOs and private institutions. As previously stated, the governmental institutional reorganisation that was underway during the period this study was undertaken made it difficult to ascertain the exact number of staff dedicated to environmental crime monitoring and enforcement-related activities within government and parastatal organisations. That notwithstanding, several constraints that hinder the efficient running of this framework were identified..

Enforcement agencies are faced with a lack of capacity, for instance of qualified personnel, a fully equipped laboratory and equipment to monitor standards and follow up on any environmental crimes that is committed. This lack of full-time personnel in institutions such as the Ozone Unit, and of inspectors, enforcement officers and rangers, often reduces the effectiveness of the enforcement process. Full-time enforcement staff is needed and it is recommended that more staff of the Environment Police within the DOE be recruited and trained to undertake such enforcement activities. All enforcement staff members need to be empowered to enforce all environment-related legislation. There is a need to establish an independent body for the enforcement of environment- related crimes by determining whether the Environmental Police Unit within the DOE should stay as it is or be integrated within the Police Department.

The lack of training of enforcement officers in evidence gathering and investigative techniques results in

inadequate cases being submitted for prosecution. The Legal Unit, which is responsible for the preparation and processing of environment-related cases, is insufficiently staffed. From the interviews conducted it transpired that most institutions involved in the management, detection and enforcement of crime have some knowledge of the legislative framework they have to work with. Most, however, believe that they need to gain specific knowledge of the laws they are enforcing and of their powers through training in the environmental legislation they have to enforce. Training is also required in the conducting of investigations, the gathering of evidence and the preparation of cases. Judicial training such as the Judicial Forum on Environmental Law, Seychelles, which was conducted in Seychelles by UNEP in 2006, should be replicated.

This lack of capacity has further been aggravated as the government is streamlining its functions to become a facilitator instead of an implementer. A way forward would be to involve NGOs and other organisations in the enforcement of environmental crime. However, they too face capacity constraints. Staff members on islands, for instance wardens, have certain powers, such as powers of arrest, which they cannot enforce owing to several factors. The islands where they work are isolated, the staff members are few and they face the danger of confronting poachers who are sometimes armed. Concerns over the security of enforcement officers raised the issue of whether they should be armed for their own safety. MPAs have difficulty proving that offenders were found in that particular area owing to the destruction of demarcation buoys by the same perpetrators..

Organisations believe that environmental crime cannot be addressed by a single organisation and that crime prevention and the method of addressing crime in Seychelles depend too much on the commitment of individuals. Although cooperation exists between government, private agencies and civil society organisations in addressing the enforcement of environmental crime, it needs to be enhanced through a more coordinated and holistic approach. Furthermore, because of the regional and global nature of environmental crime, it is imperative that regional and global cooperation be used as a means of addressing environmental crime..

LACK OF UNIFORMITY AND INCONSISTENCY IN ENVIRONMENTAL LEGISLATION

The enforcement of environmental legislation in Seychelles has historically been described as weak and is regarded so by all parties interviewed in the course of this study. Violations occur and a great number of them go unprosecuted. This situation is caused by several factors.

Institutional responsibilities are too weak and too few to enforce the law. The legislative approach in Seychelles has been seen as following the ‘command and control’ approach as it establishes strict prohibitions, making their violation an offence. Other regulatory approaches should be investigated, such as voluntary participation, economic incentives and disincentives and alternative dispute resolutions at community level..

Out-of-court settlements should perhaps be resorted to more often, as is the case for illegal fishing and oil spill incidents. (In the case of illegal fishing, 20 cases out of 36 were settled out of court between 2000 and 2008). Most vessels involved in these incidents are keen to settle out of court to avoid being taken to court and experiencing the ensuing delay. Offenders are charged up to 150,000 USD per case. No criteria are currently in place to determine how the amounts are to be paid. Two issues need to be addressed: first, the fines collected from oil spills should be used for clean-up operations; and second, the fines should reflect the severity of the case, judged on a case-by-case basis. Furthermore, kinship patterns on a small island present inherent enforcement difficulties..

A common concern is that environmental offences are not considered crimes per se and are not the focus of the police.⁵² Several institutions have complained of a lack of Police cooperation and knowledge of environmental laws. There is also a lack of motivation to be witnesses in court. This situation is further aggravated by the fact that most calls received through the green line are anonymous.

The current criminal justice system has been criticised as being slow. One alternative would be to train the staff from the Legal Unit to go to court. Another would be the setting up of an environment tribunal. Similar institutions have been set up in the country, for instance family and employment tribunals. It must be noted that the Criminal Justice Committee is now looking at ways of improving the current court system.

Numerous pieces of legislation address the various types of environmental crime. However, some of the laws have limitations; for instance, the provisions of the Lighting and Fire (Restriction) Act apply to the island of Praslin only. The Breadfruit and Other Trees (Protection) Act provides for the management of trees of commercial value but does not afford any protection for endemic species.

Legislation needs to take into account Seychelles’ international obligations. One example of Seychelles’ obligations under the Ramsar Convention is the protection of wetlands. The only protection afforded to ‘marshes and wetland habitats’ is under the EP (EIA) Regulations, which list these areas as ecologically sensitive. An EIA study must be carried out and an environmental authorisation must be obtained to carry out, execute or conduct any prescribed project or activity in a protected

or ecologically sensitive area. As a result, marshes and wetlands will be protected only when a prescribed project or activity is developed there. In several cases permission has been obtained for authorisation to undertake development/reclamation in wetlands. The current National Wetlands Policy needs to be updated and the necessary legislation needs to be put in place to reflect this. Other MEAs that should be integrated into national law are CITES; the Cartagena Protocol; and the Bonn Guidelines, 2002, on access and benefit sharing.

Some of the environment-related legislation is out of date and the penalties are too low to act as a deterrent to potential offenders; for instance the Breadfruit and Other Trees (Protection) Act that dates from 1917 provides for a fine of RS50 for each tree cut down. Furthermore, the economic value of the environment needs to be determined. A review of existing legislation should address these issues. Training on environmental economics was conducted in November 2008 under the Sustainable Land Management Project. Such training should be replicated..

It must be noted, however, that development of legislation is slow, especially because of a lack of manpower within the drafting section at the AG's Chambers..

The issue of development and pollution caused by hotel developments in protected areas, for instance Ste Anne, highlights the lack of consultation in granting development approval through SIB and the government. Furthermore, the condition of no development within 25 metres from the high-water mark should be enshrined in the law. The discretionary power of the Minister to grant approval, for instance under the EIA Regulations and S 11 TCPA, is also seen as a major loophole in the law.

In 2006, 2007 and 2008 only pollution and public health-related cases were submitted to the AG's Chambers for prosecution. The reason why only pollution cases succeeded in reaching this stage is perhaps that the legal framework for these offences is in place. Under the EPA, provisions exist for the issue of notices requiring

compliance in cases of offences in contravention of the act, such as pollution. Offenders are given a time limit to remedy the offence they committed. In 2006, 10 out of 28 cases were complied with..

LACK OF EFFECTIVE AND EFFICIENT ENVIRONMENTAL EDUCATION

Despite continuous education and awareness campaigns in the media and in schools, for instance, environmental crime is on the increase. One example is littering: the public is constantly being bombarded through the media and the yearly 'Clean Up the World Campaign.' However, the number of incidents of littering in public places remains high. Concern has been expressed on the effectiveness of such campaigns and whether they were reaching the target groups. These issues were discussed at length at the stakeholders' workshop on 17 August 2009. It was generally felt that low fines and the fact that crimes committed by higher officials or government departments went unpunished, that political and personal influence was exerted in environment-related cases and that court cases were delayed contributed to a lack of confidence in the system. It was suggested that an evaluation of present education and awareness campaigns needs to be conducted to find a way forward. Alternatives should be given as is the case in the present campaign about plastic bags where the public is being encouraged to use other types of bags. It was felt that the campaigns should be moving from don'ts to do's. It must be noted that an environmental education policy is being prepared.

Current or future initiatives need to be looked at to avoid duplication, for instance the WIOLab project; the implementation of POPs NIP to train customs officers; the GEF legislative review project; the UNDP-GEF mainstreaming Biodiversity Project on the review of the EPA and TCPA; and the Green Customs Initiative.

Notes

- 1 Any crustacean of the family *Palinuridae*
- 2 Belonging to family scyllaridae/crevice (length 20 cm); genus macrobrachium /canmaron (9 cm); genus Scylla /crabe manglier (width of carapace 11 cm).
- 3 Except for a person living in the outer islands Denis and Bird in waters around those islands for consumption in those islands but shall not export it to any other parts of Seychelles except in possession of a permit from the SFA
- 4 Report to the 4th Meeting of the Contracting Parties to the Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region, 2004.
- 5 As amended by Act 9 of 2000
- 6 As amended by Act 7 of 1997 and Act 2 of 2001
- 7 SI 39 of 1996 as amended by SI 36 of 2000
- 8 Ferguson and Carolus (2005)
- 9 SI 39 of 1996 as amended by SI 36 of 2000
- 10 SI 24 of 2000
- 11 SI 23 of 2000
- 12 S 10 (3) EPA
- 13 Act 9 of 1994
- 14 Part III EPA 1994.
- 15 S 7 (4)(a) EPA
- 16 S 7 (5) EPA
- 17 SI 38 of 1995
- 18 SI 49 of 1999
- 19 S 9 (2) EPA
- 20 S 11 (4) EPA
- 21 S 10 (3) EPA
- 22 SI 48 of 1995
- 23 S 12 (6) EPA
- 24 S 2 EPA
- 25 S 12 (7) EPA
- 26 S 12 (8) EPA
- 27 Reg. 5(i) EP (EIA); S 12 (9) EPA
- 28 SI 39 of 1996 as amended by SI 36 of 2000
- 29 SI 39 of 1996
- 30 Handling means the manufacture, processing, treatment, package, storage, transportation, importation, use, collection, destruction, and conversion, offering for sale, transfer of any substance or the like of any substance: EPA Art 14 (2)
- 31 S 12 (3) EPA
- 32 S 12 (5)
- 33 SI 14 of 2001
- 34 SI 9 of 1997
- 35 S 245 Merchant Shipping Act 1992
- 36 SI 39 of 1996 as amended by SI 36 of 2000
- 37 S 15 EPA
- 38 Schedule 1 SI 39 of 1996
- 39 Under S(10) of the TCPA the Minister may give directions to the Planning Authority requiring that any application made to the Authority for permission to develop land be referred to him instead of the Planning Authority
- 40 Akunga Momanyi (2004)
- 41 With the exception of the following: Cardinal Bird (Foudia Madagascariensis); African Barn Owl; Mynah; House Sparrow; Seychelles Bulbul (Ixocincla Crasirostris) on Fregate, La Digue and Praslin from 15 April to 15 November inclusive; Cattle Egret (Bubulcus Ibis); Grey Heron (Ardea Cinerea); on islands where sea birds lay their eggs: Desnoeuufs, L'Illet Fregate and Bird; Nestling of Wedge-tailed Shearwater (Procellaria Pacifica Hamiltoni) from 1January to 31 March, except on Beacon, Les Mamelles, Cousin, Cousine and Bird.
- 42 Any crustacean of the family *Palinuridae*

- 43 Belonging to family scyllaridae/crevice (length 20 cm); genus macrobrachium /camaron (9 cm); genus Scylla /crabe manglier (width of carapace 11 cm).
- 44 Except for a person living in the outer islands, Denis and Bird in waters around those islands for consumption in those islands but shall not export it to any other parts of Seychelles except if in possession of a permit from the SFA
- 45 Ferguson and Carolus 2005
- 46 The Commission may appoint with the approval of the Minister such numbers of other officers ... as the Minister may determine. ...
- 47 Use of licensed *casiers* or handlines may be prohibited in specified areas in the National Park
- 48 Use of licensed *casiers* or handlines may be prohibited in specified areas in the National Park
- 49 EP (Marine Parks Authority) Order, 1996 as amended by SI 14 of 1998 and 47 of 1999
- 50 DOE Praslin, SIF, ICS, Nature Seychelles, Cousine, Cousin, Aride, Denis, Fregate and Bird
- 51 Antoine et al (2008)
- 52 NBSAP (1997)

Annexure

Annex 1: Multilateral environmental agreements Seychelles is party to

	SIGNATURE/ ACCESSION	RATIFICATION
BIODIVERSITY-RELATED CONVENTIONS		
African Convention on Conservation of Nature and Natural Resources, Algiers, 1968		14.10.97
Convention on the Wetlands of International Importance, Especially as Waterfowl Habitat, Ramsar, Iran, 1971	14.11.04 S	. 11.04
United Nations Convention on the Law of the Sea (UNCLOS), 1982	10.12.82 (S)	16.09.91
Agreement relating to the implementation of Part XI of the UNCLOS, 1982	29.07.94 (S)	15.12.94
Agreement for Implementation of Provisions of the UNCLOS, 1982, Relating to Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Species	04.12.96 (S)	
Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region, Nairobi, 1985	21.06.85	29.05.90
Protocol Concerning Protected Areas and Wild Fauna and Flora in the Eastern African Region, Nairobi, 1985	21.06.85	29.05.90
Protocol Concerning Cooperation in Combating Marine Pollution in cases of Emergency in the Eastern African Region, Nairobi, 1985	21.06.85	29.05.90
Convention on Biological Diversity, Rio de Janeiro, 1992	10.06.92 S	22.09.92
Cartagena Protocol on Bio safety to the Convention on Biological Diversity, 2000	23.01.01 S	08.04
Bonn Guidelines on Access to Genetic Resources and Fair and Equitable Sharing of the Benefits Arising out of their Utilisation, 2002		
UN Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification Particularly in Africa, (UNCCD), Paris, 1994	14.10.94 S	26.06.97
Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES)	1977	
Convention on Migratory Species (CMS)		
CLIMATE CHANGE/PROTECTION OF THE OZONE LAYER		
United Nations Framework Convention on Climate Change (UNFCCC), Rio de Janeiro, 1992	10/06/92	22/09/92
Kyoto Protocol to the UNFCCC, 1997	20.03.98 S	16/02/05
Vienna Convention for the Protection of the Ozone Layer, 1985	06.01.93 A	
Montreal Protocol on Substances That Deplete the Ozone Layer, 1987	06.04.93 S	
Vienna Amendment, 1990	06.01.93 A	
London Amendment, 1990	06.01.93 A	
Copenhagen Amendment, 1992	06.01.93 A	

	SIGNATURE/ ACCESSION	RATIFICATION
Montreal Amendment, 1995	26.08.02 A	
Beijing Amendment, 1999	26.08.02 A	
WASTE/POLLUTION/CHEMICAL CONVENTIONS		
Basel Convention on the Control of Trans-boundary Movements of Hazardous Wastes and their Disposal, Geneva, 1989	11.05.93 (A)	
Protocol on Liability and Compensation for Damage Resulting from the Trans-boundary Movements of Hazardous Wastes and their Disposal, 1999		
Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (PIC), Rotterdam, 1998	11.09.98 (S)	
Convention on Persistent Organic Pollutants (POPs), Stockholm, 2001	23.05.01 (S)	



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