

**Document of
The World Bank**

Report No.: 18478 AFR

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED

GRANT FROM THE

GLOBAL ENVIRONMENT FACILITY TRUST FUND

IN THE AMOUNT OF SDR 2.3761 MILLION (US\$3.152 MILLION EQUIVALENT)

TO THE

INDIAN OCEAN COMMISSION

(FOR GOVERNMENTS OF COMOROS, MADAGASCAR, MAURITIUS, SEYCHELLES)

FOR A

WESTERN INDIAN OCEAN ISLANDS

OIL SPILL CONTINGENCY PLANNING PROJECT

October 20, 1998

**Transport I
Africa Region**

CURRENCY EQUIVALENTS

(Exchange Rate Effective 08/31/98)

SDR 1.00 = US\$ 1.32649

Currency Unit = Comorian franc
US\$1.00 = Comorian franc 445.9425
Comorian franc 1.00 = US\$0.002

Currency Unit = Malagasy franc
US\$1.00 = Malagasy franc 5,638.38
MGF 1.00 = US\$0.000177

Currency Unit = Mauritian rupee (Mau Rs)
US\$1.00 = Mau. Rs. 23.7
Mau. Rs. 1.00 = US\$0.042

Currency Unit = Seychelles rupee
US\$1.00 = Seychelles Rs. 5.127
Seychelles Rs. 1.00 = US\$0.195

FISCAL YEAR

January 1–December 31

SYSTEM OF WEIGHTS AND MEASURES

1 meter (m)	=	3.28 feet
1 hectare (ha)	=	2.47 acres
1 kilometer (km)	=	0.625 miles
1 liter	=	0.220 imperial gallons
1 cubic meter	=	220 imperial gallons

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ABBREVIATIONS AND ACRONYMS

AFD	Agence Française de Développement
BTO	Back to Office
CAS	Country Assistance Strategies
CIDA	Canadian International Development Agency
CLC	International Convention on Civil Liability for Oil Pollution Damage
CPF	Country Program Frameworks
EDF	European Development Fund
EU	European Union
ESW	Economic and Sector Work
FAC	Fonds d'Aide et de Coopération
FUND	International Fund for Compensation of Oil Pollution Damage
GDP	Gross Domestic Product
ICB	International Competitive Bidding
IBRD	International Bank for Reconstruction and Development
IDA	International Development Association
IMLI	International Maritime Law Institute
IMO	International Maritime Organization
IOC	Indian Ocean Commission
IPIECA	International Petroleum Industry Environmental Conservation Association
IW	International Waters
MOE	Ministry of Environment
MOF	Ministry of Finance
MOP	Ministry of Planning
MOT	Ministry of Transport
LCB	Local Competitive Bidding
NCP	National Contingency Plan
NEAP	National Environmental Action Program
OPRC	International Convention on Oil Pollution Preparedness, Response and Cooperation
OSR	Oil Spill Response
PAD	Project Appraisal Document
PCD	Project Concept Document
PIC	Project Implementation Coordinator
PIP	Project Implementation Plan
PMU	Project Management Unit
PPG	Project Preparation Grant
QCSB	Quality and Cost Based Selection Method
SADC	Southern African Development Community
SFF	Strategic Fuel Fund
SOLIMA	National Oil Company of Madagascar
SEPEC	State Oil Company of Seychelles
TA	Technical Assistance
UNEP	United Nations Environment Programme
UNICEF	United Nations Children's Fund

Western Indian Ocean Islands
GEF-Oil Spill Contingency Planning Project

CONTENTS

A. Project Development Objective.....	2
A.1. Project development objective and key performance indicators	2
A.2. Project global objectives and key performance indicators	2
B. Strategic Context	2
B.1. Sector-related Country Assistance Strategy (CAS) goals supported by the project.....	2
B.2. GEF Operational Strategy/program objective addressed by the project	3
B.3. Main sector issues and government strategy	3
B.4. Sector issues to be addressed by the project and strategic choices	7
C. Project Description Summary	7
C.1. Project components	7
C.2. Key policy and institutional reforms to be sought	9
C.3. Benefits and target population.....	9
C.4. Institutional and implementation arrangements	10
D. Project Rationale	11
D.1. Project alternatives considered and reasons for rejection.....	11
D.2. Major related projects financed by the Bank and/or other development agencies	13
D.3. Lessons learned and reflected in proposed project design	14
D.4. Indications of commitment and ownership	14
D.5. Value added of Bank and Global support in this project.....	14
E. Summary Project Analysis	14
E.1. Economic.....	14
E.2. Financial	15
E.3. Technical	15
E.4. Institutional.....	15
E.5. Social.....	15
E.6. Environmental assessment	16
E7. Participatory Approach.....	16
F. Sustainability and Risks.....	16
F.1. Sustainability	16
F.2. Critical Risks	18

F3. Possible Controversial Aspects	18
G. Main Grant Conditions.....	19
G1. Effectiveness Conditions.....	19
G2. Other	19
H. Readiness for Implementation	19
I. Compliance with Bank Policies	20

Annexes

Annex 1 Project Design Summary	21
Table A Project Design Summary	21
Table B Key Performance Indicators, Activities and Target Dates	23
Annex 2 Detailed Project Description	24
Annex 3 Estimated Project Costs	29
Table A Components Project Cost Summary	29
Table B Detailed Components Project Cost Summary.....	30
Table C Detailed Components Project Cost Summary.....	31
Table D Project Components by Year — Totals including Contingencies	32
Table E Summary Project Cost by Country	33
Table F Cost Table by Component and Country.....	34
Table G Components by Financiers — Totals including Contingencies.....	35
Annex 4 Incremental Cost Analysis	36
Annex 5 Procurement and Disbursement Arrangements.....	47
Table A Project Costs by Procurement Arrangements	50
Table B Thresholds for Procurement Methods and Prior Review.....	51
Table C Allocation of Loan Proceeds.....	52
Table D GEF Disbursement of Grant Proceeds.....	53
Annex 6 Project Processing Budget and Schedule	54
Annex 7 Documents in Project File.....	55
Annex 8 Statements of Loans and Credits.....	56
Annex 9 Risk Analysis and Impact	60
Annex 10 Countries at a Glance	66

Western Indian Ocean Islands

GEF-Oil Spill Contingency Planning Project

Project Appraisal Document

Africa Regional Office
AFC08

Version 20

<p>Date: 10/20/98</p> <p>Country Manager/Director: Michael Sarris</p> <p>Project ID: 3A-GE-36037 Sector: Environment</p> <p>GEF Supplement ID:</p> <p>Lending Instrument: GEF Grant</p>	<p>Team Leader/Task Manager: Abdelmouïa Ghzala</p> <p>Sector Manager/Director: Yusupha Crookes</p> <p>Program Objective Category: Environmentally Sustainable Development</p> <p>Focal Area: International Waters</p> <p>Program of Targeted Intervention: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
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Project Financing Data	<input type="checkbox"/> Loan	<input type="checkbox"/> Credit	<input type="checkbox"/> Guarantee	<input checked="" type="checkbox"/> Grant	<input type="checkbox"/> Other [Specify]
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For Loans/Credits/Others:

Amount (US\$ m): 3.152

Amount (SDRm): 2.3761

Financing plan (US\$'000):

<i>Source</i>	<i>Local</i>	<i>Foreign</i>	<i>Total</i>
Governments	211.6	513.2	724.9
Other Contributors:			
Oil Industry	26.2	279.4	305.6
South Africa	1.5	164.9	166.4
Réunion	0.7	167.3	168.0
IMO	11.5	65.3	76.8
GEF	408.9	2,650.7	3,151.8
Indian Ocean Commission	34.8	8.2	43.0
Total	695.2	3,941.3	4,636.5

Recipient: Indian Ocean Commission (for Governments of Comoros (GOC), Madagascar (GOMr), Mauritius (GOMs), Seychelles (GOS))

Guarantor: N/A

Responsible agency(ies): Ministries of environment in each country, executing agencies (to be defined) and the Indian Ocean Commission Secretariat (IOCS)

Estimated GEF disbursements (Bank FY/US\$'000):	1999	2000	2001	2002	2003
Annual	131.7	564.2	699.6	971.5	784.8
Cumulative	131.7	695.9	1,395.5	2,367.0	3,151.8

For Guarantees: N/A

☐ Partial credit ☐ Partial risk

Project implementation period: 1999–2003 (four years, five fiscal years).

Expected effectiveness date: March 1999.

Expected closing date: June 30, 2003.

A. Project Development Objective

A.1. Project development objective and key performance indicators (see Annex 1)

The objective of the proposed project is to protect the environmental integrity of the coastal and marine ecosystems of a large, biologically rich and relatively pristine part of the western Indian Ocean. The project will achieve this by helping the small island states of Comoros, Mauritius, Madagascar, and Seychelles ratify and comply with the International Convention on Oil Pollution Preparedness, Response and Cooperation (OPRC90), which requires states to develop and maintain adequate capacity to respond to oil pollution emergencies. Specific project objectives are to: (a) establish appropriate legal and institutional frameworks to ensure compliance with relevant international conventions; (b) develop national and regional contingency planning processes; (c) set up appropriate national and regional oil spill response capacity; (d) establish sustainable financial and institutional agreements and synergy through regional cooperation arrangements (including South Africa and Réunion). These objectives will be achieved by building awareness and preparedness at national levels, and establishing and organizing oil spill response capacity at national and regional levels. The project builds upon and complements the institutional framework provided by the Nairobi Convention, by recognizing the Indian Ocean Commission as the executing and implementing agency of the project.

A.2. Project global objectives and key performance indicators (see Annex 1)

The project aims at limiting the contamination of international waters and conserving globally significant marine and coastal biodiversity by: (a) addressing the threat of oil spills in the West Indian Ocean region; (b) involving the private sector in utilizing technological advances to resolve transboundary concerns associated with such a threat; and (c) developing a financing mechanism to sustain the national and regional capacity that the project will create to deal with oil spills.

B. Strategic Context

B.1. Sector-related Country Assistance Strategy (CAS) goals supported by the project (see Annex 1)

CAS document number/date of latest CAS discussion:

Mauritius: Report #16426-MAS, April 22, 1997

Madagascar: Report # 16249-MAG, February 18, 1997

Comoros and Seychelles: N/A

Country Assistance Strategies and Country Program Frameworks (CPF) for these countries focus only very generally on environmental protection, and do not specifically identify either oil pollution or protection of international waters as areas of priority intervention. The project is therefore designed to raise awareness of the threat of oil pollution to the environment and globally important biodiversity, as well as the economic potential of environmentally-related

activities, such as ecotourism and fishing.

Comoros and Seychelles. Both countries have Country Program Frameworks instead of CASs. For Comoros the project would support CPF objective to protect the environment. In the Seychelles, the project would support CPF objective to promote environmental sustainability of economic activities and environmental protection.

Madagascar. Two of the strategic objectives in the Madagascar CAS would be supported by the proposed project: (a) strengthening the public sector's ability to deliver quality services and create an enabling business environment; and (b) natural resources management to reduce degradation and develop ecotourism potential.

Mauritius. The proposed operation would support the CAS objective to improve environmental management.

B.2. GEF Operational Strategy/program objective addressed by the project

The proposed project falls under the GEF's Contaminant-Based Operational Program (number 10). It is fully consistent with the long-term objective of this program, which is to develop and implement international waters (IW) projects that demonstrate ways to overcome barriers to the use of best practices for limiting release of contaminants critical for the IW focus area, and to involve the private sector in utilizing technological advances for resolving these transboundary priority concerns. In particular, the project would support the short-term objectives to (a) leverage significant private sector support to demonstrate the use of modern technology in preventing shipping accidents, oil spills, and releases of contaminants, and to demonstrate innovative measures to address issues relevant to international maritime conventions (International Convention on Civil Liability for Oil Pollution Damage (CLC92), OPRC90, FUND92); and (b) develop a regional IW project aimed at synthesizing and disseminating lessons learned, sharing the learning experience with groups of countries cooperating on IW projects, and addressing the technical and institutional needs of countries cooperating on IW projects. The project is also consistent with the Operational Program objectives of: (a) addressing an imminent threat; (b) responding to a strong desire by neighboring countries to collaborate; and (c) developing an innovative sustainable financing mechanism.

B.3. Main sector issues and government strategy

Regional issues. The World Bank study, "Africa: A Framework for Integrated Coastal Zone Management (1996),"¹ identifies marine oil pollution from tanker traffic as one of the most serious coastal management issues for East Africa, with the Mozambique Channel singled out as an area under particular threat. The vulnerability of the Indian Ocean region to oil spill accidents has been noted in the work of other agencies, such as the International Maritime Organization's (IMO) 1994 Report on a Regional Oil Spill Contingency Program for the Island States of the Indian Ocean Region, funded by the Canadian International Development Agency (CIDA), and

¹ Environment Department, Land, Water and Natural Habitats Division, Washington, D.C.

the United Nations Conference on the Sustainable Development of Small Island Developing States. The IMO report further identifies the need to protect native species and ecosystems, such as the World Heritage Site of Aldabra Atoll, the sea turtle breeding grounds of Île Tromelin, and extensive coral formations, coastal wetlands and sand beaches.

A detailed risk and impact study was carried out as part of preparations for the proposed project to evaluate: (a) the likelihood that oil spills will occur, from small operational spills at oil handling facilities (Tier 1) to larger and more serious spills occurring in waters away from oil handling ports and harbors, for which a major response would be required (Tier 3); and (b) the damage that would result in the event of an oil spill. The study shows clearly that in all countries there are real risks of small operational spills occurring, and that there have been many such incidents in recent years. It also shows that Tier 2 events — during which up to 500 tons oil are spilled at or near harbors by vessels going aground or being involved in collisions — would have a serious impact locally and may well negatively affect regional marine ecosystems and marine biodiversity as well as national coastal resources. The study has examined several accident scenarios in which an outflow of 50,000 tons of oil could occur at different locations within the region (Tier 3 spills). It finds that accidents involving very large vessels carrying crude oil through the region would likely overwhelm the organization and response arrangements of the countries concerned, and could have devastating impacts on the environment of the region damaging coral reefs, seagrass beds, mangroves, beaches and shorelines, and devastating populations of dugons, sea turtles, numerous seabirds and many other rare and important species of wildlife. A large oil spill could also severely harm the economies of the small island developing states by damaging fishing grounds, amenity beaches, diving and deep-sea fishing areas; disrupting shipping; and shutting down activities that depend on seawater intakes to aquaria or industrial plants. A somewhat lower level of tanker traffic passes by Mauritius, about 20 million tons per year; however the potential for an accident still exists. Annex 9 contains the executive summary of the study.

The region as a whole lacks legislation, equipment and a plan to confront an oil spill emergency, although Seychelles, Mauritius and Réunion have ratified some international conventions and have developed national oil spill contingency plans, which are still untested. Réunion has developed a national oil spill response plan, and has asked to participate in the proposed GEF operation, with French funding, to share its expertise with the other islands and to take part in the regional contingency plan. Of the mainland countries bordering the Channel, only Tanzania is developing a national oil spill response plan, but currently has no facilities nor equipment. A proposed International Development Association (IDA) Credit to Mozambique would address oil pollution indirectly through ratification of the International Convention for the Prevention of Pollution from ships, 1973, as modified by the Protocol of 1978 thereto (MARPOL 73/78) and establishment of port reception facilities for ballast water. Currently, regional oil spill response capacity resides only in South Africa and the International Response Center. However, this cannot substitute for national and regional response capacity. There is potential for effective local action to respond to Tier 1 and 2 spills, and vital time would be lost without this capacity. In addition, Réunion and the government and other organizations of South Africa, (such as the Strategic Fuel Fund (SFF) and the Maritime and Safety Authority of South Africa) are supporting this project by providing valuable expertise in training, joint exercises, sensitivity

mapping, preparing national response plans, and creating a mechanism to coordinate regional action to respond to Tier 3 spills.

Regional initiatives. Some international organizations are supporting projects which are complementary to the proposed project. The European Union is carrying out a project focused on helping countries comply with the requirements for maritime safety. Under this project, the IOC, with the support of the European Development Fund (EDF), has launched a Regional Environment Program covering all of the island states, which addresses marine pollution as part of its coastal zone component. The United Nations Environment Programme (UNEP) is preparing a Transboundary Diagnostic Analysis focusing mainly on sustainable fisheries management for the west Indian Ocean region. The UNEP initiative is directly complementary to the proposed Indian Ocean Oil Spill Contingency Project. The two projects are being tightly coordinated and the results of their respective studies, such as the risk and impact analysis conducted for the proposed project, are being shared. The UNEP project is expected to be submitted to the GEF Council in October 1998.

National issues. Economic and sector work (ESW) for individual countries points to the need to protect marine resources, and individual countries have developed individual strategies to achieve this. Each of the governments of the Indian Ocean islands share common aspirations to develop the ecotourism potential of their respective countries. In each country, the fishing industry contributes to GDP. Economic development potential relies largely on protection of their shared resource, the Indian Ocean. Carrying approximately 30 percent of the world's total annual petroleum output, the Indian Ocean is one of the busiest shipping lanes in the world. An oil spill would ruin beaches and marine and coastal ecosystems. This would severely damage or destroy two key economic sectors of the island nations: tourism and fishing.

Comoros. A wide variety of ESW has been carried out by the Bank and other donors to identify the issues relevant to the proposed project. The Economic Strategy Note (1993), and subsequent Policy Framework Paper (1994) identified the need to protect fragile ecosystems and to implement mechanisms for managing environmental problems. The 1994 National Environmental Action Program (NEAP) also identified conservation of marine and coastal ecosystems and development of national environmental institutional and policy frameworks as key issues to be addressed. The 1996 Tourism, Environment and Infrastructure Sector Study emphasized the importance of environmental protection, particularly of marine and coastal ecosystems, to economic development based on tourism. The government's strategy is to implement the recommendations of the NEAP, as stated above, and to implement related measures (environmental legislation, updated building codes, institutional strengthening, public awareness and involvement of communities) through a multi-donor infrastructure and environment program, of which the proposed Bank Infrastructure, Water and Environment Project is an integral part. The government has not yet ratified any of the international waters conventions, nor is there any oil spill response capacity at either the state level or at the level of the state-owned oil company. However, the State Oil company (under privatization) is committed to acquiring Tier I equipment and developing its own oil spill response capacity during the project implementation.

Madagascar. Madagascar developed a National Conservation for Development Strategy in 1984. This was followed by the 1988 National Environmental Action Plan, completed with support from the World Bank, United States Agency for International Development, Swiss Cooperation, UNESCO, UNDP and the World Wide Fund for Nature. Both of these documents recognize the importance of preserving Madagascar's rich biodiversity and unique ecosystems as a basis for the development of tourism. The NEAP emphasizes the need to protect coastal zones; however it focuses on addressing land-based sources of pollution and environmental degradation. The government has undertaken several environmental projects with IDA support, and is currently preparing a transport project which addresses oil pollution in ports. However, the government has not yet signed any of the international maritime conventions, nor has it developed a national oil spill response plan. Although the country annually imports and refines about 500,000 tons of crude oil, and moves fuel and oil products around the coast in small tankers, there is no oil spill response capacity of any sort, not even at the National Oil Company (SOLIMA) crude import facility at Toamasina. However, the State Oil company (under privatization) is committed to acquire Tier I equipment and develop its own oil spill response capacity during the project implementation.

Mauritius. The 1990 NEAP identified the lack of an institutional and regulatory framework for environmental management as a major sectoral bottleneck. The NEAP further emphasized the importance of preserving Mauritius' unique biodiversity and coastal ecosystems, essential for the development of the tourist industry. The government has been active in promoting environmental programs, including development of a national oil spill contingency plan under the authority of the Ministry of Environment, a Tier 1 plan and some equipment under the Marine Authority, and Tier 1 plans and equipment for oil terminals. These response plans are under revision and not all have been tested. There is a need for additional preparedness training. The government has ratified several international maritime conventions (CLC69, FUND71, MARPOL 73/78 and Annexes I and II) and has expressed interest in ratifying OPRC90. The local oil industries, which have already developed some oil spill response capacity and are equipped with Tier I equipment, are committed to providing more adequate oil spill response equipment and generally support government initiatives in the field of oil spill response.

Seychelles. The 1990–2000 Environmental Management Plan of Seychelles recognizes the need to protect biodiversity from threats posed by concentrations of populations and economic activities, beach erosion, and inadequate management of sewage. The plan emphasizes the importance of regional environmental cooperation, particularly to guard against over fishing , and the need to develop baseline studies and scientific information on marine and coastal ecosystems. Finally, the plan proposes developing national preparedness and capacity to address oil spills as part of the development of Port Victoria. Seychelles is an active participant in international environmental conventions and programs and is home to two World Heritage sites (Aldabra Atoll and Valée de Mai Nature Reserve). The government has ratified the major international maritime conventions (CLC69, FUND71 and OPRC90) and has developed a national oil spill contingency plan within the National Environmental Management Plan. The oil spill contingency plan has recently been transferred from the Port Authority to the Coast Guard. The country has recently acquired some oil spill response equipment, and the State Oil Company

(SEPEC) has purchased a small amount of equipment to cover its terminal operations and is committed to develop its own oil spill response capacity.

B.4. Sector issues to be addressed by the project and strategic choices

The proposed project addresses all of the oil-spill related issues specified above. Each country will develop national institutional, physical and strategic capacity to respond to oil spills to protect national coastal and surrounding marine environments in the interest of conserving globally important biodiversity, protecting fisheries and promoting ecotourism. The project will protect the shared Indian Ocean resources by establishing regional agreements and strategies to respond to oil spill accidents that transcend national borders. The project will facilitate regional cooperation and coordination of the island nations, including (a) signing of international conventions and treaties (CLC92, FUND92, OPRC90,), (b) definition of a regional oil spill response plan, (c) coordination of national legislation, (d) ensuring adequate oil spill response capacity, and (e) establishing a mechanism for regional coordination. In order to ensure adequate oil spill response capacity, the project places primary emphasis on establishing financial sustainability for the oil spill response system at both national and regional levels, and on building cooperation between concerned national governments and the local and international oil shipping industries. This cooperation would mobilize technologies and procedures to address oil spill emergencies that have been developed by the oil industry.

C. Project Description Summary

C.1. Project components (see Annex 1)

Component A: Legislation and regulation for conventions. Component A would assist the four island nations develop their national legislative framework to take account of the provisions of the CLC92, FUND92 and OPRC90 conventions. It is also recommended that the countries consider accession to the International Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties (INTERVENTION 69). This would empower governments to take appropriate action in the event a ship is at risk of spilling oil in its territory. The project will assist countries through: (a) a regional workshop on the ratification and implementation of the conventions to highlight the experience of countries that have already ratified and are implementing them (Mauritius to take a lead role); (b) expert consultancy to Comoros and Madagascar to assist in the preparation and ratification of relevant international conventions, and to develop or upgrade the national legal framework to take account of relevant conventions' provisions; and (c) expert consultancy to assist all four countries in drafting the technical legislation for the implementation of the conventions' provisions. This component will also provide for a long-term training course for legal officers at the IMO International Maritime Law Institute (IMLI).

Component B: National oil spill contingency plans. Training workshops and external experts would assist in developing national capacity for environment data collection and information management systems, identification of areas of environmental and socioeconomic importance, and establishment of national priority areas. This information would be used to create national

environmental sensitivity maps. National contingency plans would be developed by Comoros and Madagascar, and reviewed and tested for Seychelles and Mauritius.

Component C: Oil spill response equipment. This component would consist of: (a) assessment of baseline situation to determine equipment needs; (b) specification of equipment needed; (c) procurement of equipment, and (d) training in equipment operation and maintenance.

Component D: National capacity building. This component would involve: (a) training on environmental sensitivity mapping, project management, convention implementation, and others; (b) training of trainers; (c) provision of expert advice and guidance in specific matters relating to national contingency plans, oil spill equipment, fate and effects of oil in the marine environment, risk assessment and development of appropriate response strategies; (d) support to allow government officials to attend the main international seminars on oil pollution, technology and related matters; and (e) expertise on developing, reviewing and testing an oil spill response manual.

Component E: Regional institutional strengthening. This component would assist in the development of a regional plan for response to a major oil spill. Specifically, this component would assist all beneficiary countries develop capacity for project management; development of regional agreements for cooperation; awareness raising, training and joint exercises; regional contingency planning, and establishment of a regional oil spill response coordination center. Seychelles has proposed hosting and permanently financing the regional coordination center, and the other countries have agreed. The plan would be developed in conjunction with the relevant government departments and industry in South Africa, and be used as an opportunity to establish strong links with this country, which has resources that can be used to assist the member countries increase their own oil spill response capacity.

Project components summary

<i>Components</i>	<i>Category</i>	<i>Cost including contingencies (US\$ '000)</i>	<i>Percent of total</i>	<i>GEF financing (US\$ '000)</i>
A. Legislation and regulation for conventions	Policy/ institution building	527.3	11%	450.6
B. National oil spill contingency plans (NCP)	Institution building	1,117.6	24%	444.7
C. Oil spill response equipment	Physical/ institution building	1,265.4	27%	814.4
D. National capacity building	Institution building	604.6	13%	512.6
E. Regional institutional strengthening	Policy/ institution building	1,121.6	24%	929.6
Total		4,636.5	100%	3,151.8

C.2. Key policy and institutional reforms to be sought

No major policy and institutional reforms are considered under this project. The project does, however, focus on building awareness and facilitating ratification and implementation of international maritime conventions (CLC92, FUND92, OPRC90), and on generating cooperation among national agencies and between the Indian Ocean island countries to address oil spill emergencies. In addition, the project will support the development of sustainable institutional and financial arrangements among the countries and between the countries and the national and international oil industries.

C.3. Benefits and target population

The project will significantly reduce the risk of devastating impacts on the biologically rich ecosystems of the west Indian Ocean Region due to an accidental oil spill. The Indian Ocean is home to the World Heritage Site of Aldabra Atoll (Seychelles), unique indigenous marine life such as the coelacanth and local species of aquatic birds, sea turtles and coral reefs. Protection of marine and coastal environments and conservation of biodiversity will help ensure that significant ecosystems and unique wildlife are not destroyed due to an oil spill accident. Protection of marine and coastal ecosystems will also promote growth in tourism and protect fisheries upon which many people depend. This will benefit the region as a whole, as well as individual nations and their residents. Countries will also benefit from the partnership that will be fostered among countries. The West Indian Ocean Countries and the local and international oil industry will benefit from the relationship and the transfer of technology that the project will foster, and the enhanced capacity to respond effectively to oil spills. This partnership will result in the mobilization of oil industry equipment and expertise in the event of an emergency.

C.4. Institutional and implementation arrangements

Project Implementation Period. The project will take place over four years, fiscal 1999–2003, completed by December 31, 2002 and closed by June 30, 2003. The project will be carried out in two phases: (a) building awareness and preparedness at the national level; and (b) establishing sustainable, operational oil spill response capabilities at the national and regional levels.

Executing agencies. A project management unit (PMU) of the Indian Ocean Commission Secretariat (IOCS), ministries of the environment of Comoros, Madagascar, Mauritius, Seychelles, and national executing agencies (for the equipment component) will execute the project.

Project coordination and oversight. The project management unit established at the regional level under the Indian Ocean Commission Secretariat and headed by a regional coordinator will be responsible for overall project coordination and implementation.

A project implementation coordinator within the ministry of environment for each country will coordinate the national components of the project. The project management unit and the project implementation coordinator will benefit from technical assistance for project management and monitoring and technical capacity in oil spill response management. A steering committee, chaired by the IOC and comprising senior officials responsible for environment for each participating country, will ensure national and regional interagency coordination and cooperation among all donors.

The ministries of environment in each of the countries will be responsible for drafting enabling legislation at the national level, and, with the Indian Ocean Commission Secretariat, for ensuring ratification of international conventions and protocols on the regional level. They will also have overall responsibility for drafting national and regional oil spill response plans. Executing agencies at the national level will contribute to these plans and will be responsible for carrying them out. The Indian Ocean Commission Secretariat, with expert assistance, will provide project coordination and oversight, particularly of regional components.

Procurement. Consultants and equipment to be financed under the GEF grant will be procured according to World Bank procurement guidelines.

Monitoring and evaluation. Monitoring and evaluation will be carried out at two levels: (a) tracking project progress; and (b) monitoring national capability. These tasks will be carried out while the project is under implementation by all involved parties, through regular joint supervision and review.

Supervision. The Bank will devote some 60 staff weeks to supervise progress under the GEF grant through fiscal 2003. During the first three years, supervision will focus on progress in achieving specific objectives, such as convention ratification, procurement, national and regional contingency plan development and implementation. During supervision and project reviews,

particular attention will be paid to implementation of the mechanisms and the training program designed to promote institutional and financial sustainability.

Monitoring. Overall project monitoring will be based on indicators prepared during appraisal and on the project implementation plan finalized by the IOC and agreed during negotiations. The steering committee, chaired by Indian Ocean Commission and assisted by consultants as necessary, will be responsible for the monitoring. The Indian Ocean Commission will monitor and coordinate progress under each project component through the project management unit, under the guidance of the steering committee. It will prepare progress reports every six months, commencing in January 1999, and submit them to the Bank within one month thereafter. No later than three months after completion of the project, the Indian Ocean Commission will prepare and provide to the Bank a report on the execution of the project, its costs and current and future benefits to be derived from it.

Accounting, financial reporting and auditing arrangements. The Indian Ocean Commission will establish (prior to June 30, 1999) a project accounting system tracking the cost of the various goods and services provided under the project, according to the "Financial, Accounting, Reporting, and Auditing Handbook," dated January 1995 and published by the World Bank. It will keep separate project accounts together with their statutory financial statements. Terms of reference for annual audits of project accounts and semiannual audits of the Statement of Expenditures (SOE) have been agreed upon at negotiations. Auditing will be carried out by independent auditors acceptable to the Bank, and the reports of such audits will be submitted to the Bank no later than six months after the end of the IOC's fiscal year for the project accounts and no later than three months after the end of each calendar semester for the SOEs.

Mid-term review. A mid-term review will be carried out no later than December 2000 by the Bank, together with Indian Ocean Commission and the other involved parties. In addition to covering all areas included in annual reviews, the mid-term review will assess the implementation status of the national and regional components, institutional and financial arrangements, cost-recovery system and the legal framework for regional cooperation. During the mid-term review, the institutional and financial sustainability action plans of each beneficiary country will be reviewed and reassessed. Prior to the mid-term review, the Indian Ocean Commission will contract a consultant (under GEF finance) to review and assess the progress of project implementation and prepare the necessary documentation for the review. In particular, the review will consider and discuss the results of the review of the project implementation plan (PIP) and recommendations for updating/amending the PIP for the remainder of project implementation. It is expected that the mid-term review will result in the determination of a general framework for the sustainable institutional and financial arrangements between the concerned countries and between the governments and local and international oil industries.

D. Project Rationale

D.1. Project alternatives considered and reasons for rejection

One alternative is to continue to rely on oil spill response capacity in South Africa and the

international response centers. While South Africa and the international response centers will continue to provide technical (and perhaps material) assistance, development of regional capacity is more appropriate to respond to a local oil spill emergency. The configuration of the islands and their history of cooperation through the Indian Ocean Commission argue for a project built on regional cooperation rather than reliance on outside and remote oil spill response capacity. For Tier 1 spills, only a limited response is likely, which could be provided by national capacity. For more serious spills, the combined capacity of the neighboring islands, in addition to the time saved by proximity, argue for developing regional capacity. Another alternative would be to develop oil spill response capacity in one or more countries in the region. While such an option might protect national waters and coastal regions, an oil spill typically has significant spillover effects and often requires international assistance. Therefore, the proposed project would develop both national and regional response capacity to address both national and transboundary environmental threats, and would bring the beneficiary countries the benefits of international emergency assistance by making them signatories to international maritime conventions.

D.2. Major related projects financed by the Bank and/or other development agencies (completed, ongoing and planned)

Sector issue	Project	Latest supervision ratings (Form 590)	
		Implementation progress (IP)	Development objective (DO)
Bank-financed			
<i>General</i>			
Protection of International Waters	Mediterranean Pollution Control: Algeria (4871) Morocco (5347) Tunisia (5588)	S HS HS	S HS HS
Protection of International Waters	Ship-Generated Waste Management Project (Eastern Caribbean) (6957)	S	S
Protection of International Waters	Wider Caribbean Initiative for Ship-Generated Waste (6956)	U	S
<i>Regional</i>			
Environmental standards and monitoring	Mauritius Environmental Monitoring and Development Project (1914) Seychelles Transport and Environment Project (2383)	S S	S S
Marine/coastal pollution	Mauritius Environmental Sewerage and Sanitation Project (not yet effective)		
Port pollution	Madagascar Transport Sector Project (under preparation)		
Environmental legislation/codes/infrastructure	Comoros Infrastructure, Water and Environment Project (under preparation)		
Other agencies			
Environmental legislation/codes/infrastructure	Comoros Multi-donor Infrastructure and Environment Program (planned) (UNICEF/EDF/FAC/AFD/ Islamic Development Bank)		
Indian Ocean marine resources preservation and regional environmental legislation	IOC Regional Environmental Program		
Indian Ocean regional pollution	IOC Regional Action Project for Maritime Security		
Marine resources management	IOC Regional Tuna Program, IOC Regional Tourism Program UNEP Transboundary Diagnostic Analysis of the West Indian Ocean		

IP/DO Ratings: HS (Highly Satisfactory), S (Satisfactory), U (Unsatisfactory), HU (Highly Unsatisfactory)

D.3. Lessons learned and reflected in proposed project design

Lessons from the Indian Ocean Commission/European Union Regional Environmental Program include: (a) the need for mechanisms to facilitate coordination between the Indian Ocean states, particularly in the area of environmental legislation; (b) the need for a flexible and responsive project management structure; and (c) the need to involve private sector actors and other local sources of expertise.

Lessons from World Bank projects in the area include: (a) the need to ensure a minimum level of participation from all countries, especially in the areas of financial sustainability, training and infrastructure maintenance; (b) the benefits of mobilizing and involving private sector expertise; and (c) the need for mechanisms to facilitate regional interaction.

The proposed project therefore: (a) builds on the regional coordination and cooperation built by the Indian Ocean Commission, while ensuring responsiveness through an autonomous project coordinator within the Commission; (b) sets minimum participation benchmarks for each of the countries defined in national and regional contingency plans; (c) incorporates expertise from the private sector and other countries in the region; and (d) ensures regional coordination and interaction through the regional contingency plans, training and joint exercises.

D.4. Indications of commitment and ownership

The countries are participating in the Indian Ocean Commission Regional Environment Program and have been fully involved in preparatory project studies. Seychelles and Mauritius have developed national oil spill contingency plans.

D.5. Value added of Bank and Global support in this project

The GEF financing and operational framework will act as a catalyst and a guide for individual country involvement and regional cooperation to respond to the risk of oil spill pollution. The World Bank brings considerable experience in working with beneficiary countries on global environmental issues and the ability to mobilize the private sector, in particular the international and local oil industries.

E. Summary Project Analysis (Detailed assessments are in the project file, see Annex 7)

E.1. Economic (supported by Annex 4)

[] Cost-Benefit Analysis : NPV=US\$ million; ERR= % [] Cost Effectiveness Analysis:
[X] Incremental Cost [] Other (Specify)

The people of the developing island countries are stewards of rich and globally important marine and coastal ecosystems and biodiversity. Yet the resources are shared, so individual countries are reluctant to take action to protect the resources without the involvement of other beneficiary

countries are among the poorest in the world, and lack resources to invest in protecting global commons. The incremental cost analysis is detailed in Annex 4.

E.2. Financial

During project implementation, cost recovery and sustainable financing arrangements of national and regional oil spill response centers will be established, as well as financial responsibility of oil industry towards oil spill risks and issues. A study, identifying sustainable institutional and financial arrangements has been completed. This study has formed the basis of actions plans for institutional and financial sustainability detailed for each country, and agreed during negotiations. Commitment to implement the action plans is a condition of Board presentation.

E.3. Technical

During project implementation, the most appropriate technical arrangements will be developed and used during training, joint exercises, marine sensitivity mapping, national and regional contingency plans preparation, etc. Equipment for oil spill response centers will be procured in accordance with the most appropriate standards and specifications. Local oil industries in each of the beneficiary countries will acquire Tier I equipment and develop its own oil spill response capacity.

E.4. Institutional

A project management unit (PMU) of the Indian Ocean Commission Secretariat (IOCS), ministries of the environment of Comoros, Madagascar, Mauritius, Seychelles, and national executing agencies (for the equipment component) will execute the project.

The overall coordination of the project as well as the implementation of the regional component will be carried out by a project management unit (PMU), established at the regional level under the IOC Secretariat and headed by a regional coordinator (already appointed). This unit, under the guidance of a steering committee (proposed to be headed by the Secretary General of the IOC, and comprised of senior officials responsible for environment of each of the beneficiary countries) will be also responsible and accountable for the overall monitoring of the project. The national components of the project will be implemented through a project implementation coordinator (PIC) from the ministry of environment of each country. The PIC will coordinate the different activities to be carried out by the relevant executing agencies in each country. Sustainable institutional and financial arrangements within and among countries, and between countries and the oil industry will be set up during project implementation.

E.5. Social

The social consequences of a major oil spill would be high, due to unemployment that would result from disruption to the tourism and fishing industries, and damage to a major food source (Seychelles and Comoros).

E.6. Environmental assessment

Environmental Category ☐ A ☐ B ☒ C

The project comprises mainly technical assistance for the development of regional capacity to respond to an oil spill emergency, and is therefore rated Category C. It does not generate any negative environmental impacts of its own. Indeed its purpose is to provide protection against environmental damage arising from an oil spill accident.

E7. Participatory Approach [key stakeholders, how involved, and what they have influenced; if participatory approach not used, describe why not applicable]

a. Primary stakeholders and other affected groups:

Local oil industries and the International Petroleum Industry Environmental Conservation Association (IPIECA) have been involved in project design, because the industry recognizes the importance of assisting with the development of oil spill response capacity in countries and regions. Local governments and academic institutions have been involved in the identification of environmental issues.

b. Other key stakeholders:

Other contributors — the Governments of South Africa and Réunion, South Africa (government and oil industry) and IMO — are also participating in and contributing (in-kind) to the project.

F. Sustainability and Risks

F.1. Sustainability

Project sustainability will rest on the overall commitment of the Indian Ocean Commission countries and the oil industry to protect the environment against oil spill pollution. The key objective of the project is to build sustainable institutional and financial arrangements within and among countries and between countries and the local and international oil industries. To ensure that this essential outcome is met, an institutional and financial sustainability study has been carried out. Written agreements from the governments confirming their commitment to implement the agreed institutional and financial sustainability action plans is a condition of Board presentation.

In accordance with its proposal, accepted by the other countries, Seychelles will host and permanently finance the regional oil spill response coordination center. During the course of project implementation, the center will acquire the skills needed to assume the coordination function. In particular, the center will: (a) prepare a plan to make operational the regional oil spill contingency plan completed during the second year of the project; (b) test its regional coordinator role through a regional test during the third year of the project; (c) establish

communication links with participating countries; and (d) monitor ship traffic through the region where practicable and to disseminate findings regarding illegal discharges of oil and passage of tankers and ships carrying hazardous cargoes through sensitive areas, such as the World Heritage site of Aldabra. After completion of the project, the center will: (a) be the custodian of the regional oil spill response plan; (b) design and implement regular regional exercises; (c) assist countries with the further development of their national contingency plans when requested; (d) organize and hold workshops to assist with the development of national and regional oil spill response capacity; and (e) take an auditor's role in monitoring regular national and regional exercises and maintenance procedures, and publish an annual report on its findings.

Following project completion, the participating island states will incur expenses for annual training and exercises, maintenance, and renewal of equipment as required. Madagascar has proposed financing these expenses through a port levy, and Comoros will establish a special fund financed by a levy on oil imports. Seychelles and Mauritius will meet these expenses through their general budgets. The institutional and financial sustainability action plans for each country, agreed with the Bank during negotiations, detail the indicative amount each country will be expected to contribute each year, the source of funds, and arrangements for administering the funds. The action plans will be reviewed and reassessed during the mid-term review and are expected to be fully implemented prior to the completion date (December 31, 2002).

F.2. Critical Risks (reflecting assumptions in the fourth column of Annex 1)

<i>Risk</i>	<i>Risk rating</i>	<i>Risk minimization measure</i>
<i>Annex 1, "from Outputs to Objective"</i>		
Lack of/uneven compliance with regional plan by one or more countries	S	The synergies among countries created by the project and the assistance brought by South Africa and Réunion will help the countries to comply.
Lack of/uneven capacity in one or more countries	S	Project will strengthen capacity and encourage sharing of expertise among countries
Lack of enforcement capacity	M	Synergies among countries created by the project and the assistance brought by South Africa
Lack of oil industry compliance	M	The synergies among national industries created by the project and the assistance brought by South Africa oil industry and IPIECA
<i>Annex 1, "from Components to Outputs"</i>		
Risk of non-acceptance of international conventions by one or more countries	N	IOC (regional cooperation agency) and government commitments
Risk of non-enforcement of national legislation or noncompliance with national response plan	M	Synergies among countries created by the project and the assistance brought by South Africa
Lack of/uneven equipment operation and maintenance capacity	S	Training to defined standard
Uneven financial capacity	S	Planned sustainable institutional and financial arrangements will address this risk
Unclear national/regional roles and responsibilities	N	Specific national and regional contingency plans
Overall Risk Rating	M	

Risk rating: H (high risk), S (substantial risk), M (moderate risk), N (negligible or low risk)

F3. Possible Controversial Aspects

None

G. Main Grant Conditions

G1. Effectiveness Conditions

- Project Implementation Plan (PIP), in form and substance acceptable to the Bank, adopted by the Recipient.

G2. Other [classify according to covenant types used in the Legal Agreements.]

Prior to Negotiations:

- PIP prepared.

During Negotiations:

- Agreement with IOC and governments on the institutional and financial sustainability action plans.
- Finalization of the PIP.
- Agreement on a date and format for a mid-term review.

Prior to Board Presentation:

- Steering committee established.
- Written commitment of South Africa, Réunion, IPIECA and IMO expressing their support for the project, and their willingness to assist with its implementation.
- Written commitment of Governments to initiate the process necessary to ratify the relevant international conventions (CLC92, FUND92, OPRC90).
- Written commitments from the governments to provide the necessary resources required for the execution of the project, and to implement the institutional and financial sustainability action plans. The written commitment will be according to the format provided by the World Bank.

H. Readiness for Implementation

[] The engineering design documents for the first year's activities are complete and ready for the start of project implementation. [X] Not applicable.

[] The procurement documents for the first year's activities are complete and ready for the start of project implementation.

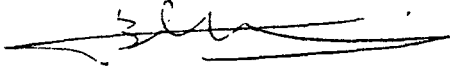
The two preparatory studies (risk and impact assessment and institutional and financial sustainability study) have been financed under the PDF Block B. They will be completed prior to Board presentation, and their recommendations will be considered for the start of project implementation.

[X] The draft project implementation plan was reviewed during appraisal and found to be realistic and of satisfactory quality. The PIP was finalized during negotiations.

I. Compliance with Bank Policies

☒ This project complies with all applicable Bank policies.

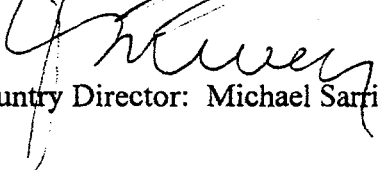
☐ [The following exceptions to Bank policies are recommended for approval: The project complies with all other applicable Bank policies.]



Task Team Leader: Abdelmoula Ghzala



Sector Manager: Yusupha Crookes



Country Director: Michael Sarris

Annex 1

West Indian Ocean Islands

Oil Spill Contingency Planning Project

Project Design Summary

<i>Narrative Summary</i>	<i>Key Performance Indicators</i>	<i>Monitoring and Supervision</i>	<i>Critical Assumptions and Risks</i>
CAS/GEF Objective			(CAS Objective to Bank Mission)
<u>Global Objective:</u> Limit contamination of international waters	Response time/limit of damage in case of oil spill Water quality	International Response Centers	Commitment by governments to strengthen environmental institutions and protect marine and coastal resources and globally important biodiversity.
<u>Comoros CPF Objective:</u> Environmental protection — develop strategy for environmentally sustainable tourism	Sustainable national and regional oil spill response capacity in place.	Ministry of Environment (MOE)	Adoption of legal and legislative framework for ratification of relevant international conventions. Willingness to operate as part of a regional initiative.
<u>Seychelles CPF Objective:</u> Promote environmental sustainability of economic activities and environmental protection — (a) ensure that infrastructure development supporting tourism is environmentally benign; (b) promote preservation of environmentally sensitive areas	Sustainable national and regional oil spill response capacity in place.	Ministry of Environment	Adoption of legal and legislative framework for ratification of relevant international conventions. Willingness to operate as part of a regional initiative.
<u>Madagascar CAS Objective:</u> Promote environmental protection, improve infrastructure to facilitate tourism development	Sustainable national and regional oil spill response capacity in place.	Ministry of Environment	Adoption of legal and legislative framework for ratification of relevant international conventions. Willingness to operate as part of a regional initiative.
<u>Mauritius CAS Objective:</u> Improve environmental management — improve environmental strategic planning	Sustainable national and regional oil spill response capacity in place.	Ministry of Environment	Adoption of legal and legislative framework for ratification of relevant international conventions. Willingness to operate as part of a regional initiative.
Project Development Objectives			(Development Objectives to CAS Objective)
<u>GEF Operational Program Objectives:</u> (a) Develop and implement international waters projects that limit release of contaminants threatening international waters focal area; and (b) involve private sector in using technological advances to resolve transboundary issues concerning JW focal area	Legislation/conventions in place. System of regional cooperation in place. All petroleum shipping companies involved in regional contingency activities. Private sector operators involved in service provision.	IMO/ministries of Transport (MOTs) Port authorities	Assumes private sector has an interest in project objectives and will cooperatively share technology and expertise.
<u>Project Objective:</u> Protect the environmental integrity of coastal and marine systems in the Indian Ocean region	Clear and sustainable oil spill contingency plan in place in each country and in region as a whole. Oil spill response equipment operation and maintenance capacity in place. Rapid response time /limit of damage in case of oil spill.	MOEs/IOC National gendarmerie/port authorities/coast guards Port/marine authorities	Assumes that regional oil spill response capacity is adequate and operates as expected.

Table A Project Design Summary (cont.)

Project Outputs			(Outputs to Development Objectives)
Increased awareness and preparedness at national levels to respond to oil spills.	10-15 awareness/training workshops held. Oil industry shippers aware of oil spill contingency arrangements.	IOCS MOTs National gendarmerie/port authorities/coast guards	Assumes continuity of trained staff.
Sustainable functioning of oil spill response institutions at national and regional levels.	Staff trained and in place. Seven regional workshops/exercises held. Financial resources available (national and regional levels). An agreed and operating financial sustainability mechanism established.	Ministries of Planning (MOPs) MOTs/MOE Ministries of Finance (MOFs)	Risk of uneven compliance by one or more countries Risk of uneven capabilities in one or more countries Unclear regional roles and responsibilities
Legislative/regulatory framework at national and regional levels to facilitate regional response.	Legislation in place. System for negotiating new legislation in place.	IMO/MOE/ IOCS	Risk of uneven compliance or enforcement capacity in one or more countries
Local and international oil industries - financial and technical support on a permanent basis	Annual amount of financing or weeks of TA provided.	IPIECA/IOCS	Risk of lack of compliance by oil companies
Project Components			(Components to Outputs)
<i>A. Legislation and regulation for conventions</i> (a) Training abroad (b) Regional workshop (c) Legal expertise for ratification (d) National legal framework upgrading	Inputs GEF IMO	MOEs MOTs	Risk of nonacceptance of international conventions by one or more countries Risk of nonenforcement of national legislation
<i>B. National oil spill contingency plans (NCP)</i> (a) Oil spill response basic training (b) NCP expertise and training (c) Environmental sensitivity index (d) NCP review (e) NCP testing/updating (f) NCP coordination	GEF Oil industry South Africa Réunion	MOEs MOTs Local oil industries	Needs clear delineation of industry, national and regional roles and responsibilities Risk of noncompliance by industry/individual countries
<i>C. Oil spill response equipment</i> (a) Expertise for equipment specification (b) Procurement of equipment (c) Equipment operator training (d) National exercises (e) Maintenance training (f) Equipment storage	GEF Governments Réunion Oil industry	MOEs MOTs Local oil industries	Lack of/uneven operation and maintenance capacity Uneven financial capacity
<i>D. National capacity building</i> (a) Workshops (b) Training of trainers (c) External expertise (d) International seminars (e) Expertise for oil spill response manual	South Africa (government and oil industry) GEF Governments Réunion Oil industry	MOEs MOTs National gendarmerie/port authorities/coast guards	Lack of/uneven institutional capacity
<i>E. Regional institutional strengthening</i> (a) Conventions workshops (b) Assistance for project coordination (c) Training and seminars (d) Regional exercises (e) Regional contingency plan and agreements (f) Regional coordination center (g) Expertise and studies	South Africa GEF Governments Réunion Oil industry IOC	MOEs MOTs IOCS South Africa Réunion	Needs clear delineation of national/regional roles and responsibilities

Table B Key Performance Indicators, Activities and Target Dates

<i>Performance Indicators/Activities</i>	<i>Target Dates</i>
CLC92 FUND92 and OPRC90 conventions ratified and implemented.	December 31, 2000
CLC92: Comoros, Madagascar, Mauritius, Seychelles	
FUND92: Comoros, Madagascar, Mauritius, Seychelles	
OPRC90: Comoros, Madagascar, Mauritius	
Five students completed training course at IMO's International Law Institute in Malta.	June 30, 2000
One workshop held with at least four specialists from each country participating.	December 31, 1999
National oil spill contingency plan put into place. Plans to test the plan every two years established and a source of financing identified.	December 31, 2002
Thirty people completed the oil spill response basic training.	December 31, 2001
Two exercises conducted by each country.	December 31, 2002
Each country has at least a first edition of environmental sensitivity maps, and the capabilities to update them as necessary.	December 31, 2002 (Seven workshops completed, over three years)
All specified oil handling facilities equipped with fully operational Tier 1 equipment. A storage, maintenance and exercise schedule is operating according to plan.	December 31, 2002
Five people trained in equipment specification.	December 31, 2000
A minimum of 20 people trained in basic operation and maintenance of equipment.	December 31, 2002
Two exercises held in each country, during which equipment is deployed and moved.	December 31, 2002
National capacity strengthened.	December 31, 2002
Twelve workshops (3 per country) completed.	December 31, 2002
Twenty people trained to teach standard IMO level 3 courses.	December 31, 2002
Experts from the region attended four key international seminars on the topic.	One per year during the project life
Oil spill response manuals developed for each country.	December 31, 2001
Regional contingency plans in place. Plans to test the plan every two years established and a source of financing identified.	December 31, 2001
Two workshops held, focusing on regional cooperation and support.	December 31, 2001
Two seminars on regional issues held.	One per year, 2001–2002
Two exercises of the regional plan completed.	December 31, 2002
Regional coordination center established and operational.	December 31, 2001
Communication equipment purchased.	December 31, 2002

Annex 2

West Indian Ocean Islands

Oil Spill Contingency Planning Project

Detailed Project Description

Component A: Legislation and regulation for conventions — US\$527.3 thousand

The relevant international conventions to the project are: (a) the International Convention on Oil Pollution Preparedness and Response and Co-operation, 1990 (OPRC90); and (b) the 1992 Protocols to the International Convention on Civil Liability for Oil Pollution Damage (CLC92) and the International Convention on the establishment of the International Fund for Compensation for Oil Pollution Damage, (FUND92). It is also recommended that the countries consider accession to the 1969 Intervention in cases of Oil Pollution on the High Seas Convention. Of the four beneficiary countries in the project, only Seychelles has acceded the OPRC90 convention. Comoros and Madagascar have still to ratify/accede to all three relevant conventions.

Component A would assist the four countries upgrade their national legislative framework to take account of the provisions of above three conventions. The assistance will be provided through: (a) a regional workshop on the ratification and implementation of relevant international conventions (CLC92, FUND92 and OPRC90) to highlight the experience of countries that have already ratified and are implementing these conventions; (b) expert consultancy to Comoros and Madagascar to assist in the preparation and ratification of relevant international conventions, and to develop or upgrade the national legal framework to take account of relevant conventions' provisions; and (c) expert consultancy to assist all four countries in drafting the technical legislation for the implementation of the conventions' provisions. This component will also provide for a long-term training course for legal officers at the IMO International Maritime Law Institute (IMLI).

Component B: National oil spill contingency plans — US\$1,117.6 thousand

This component would be organized in two phases. During the first phase, training workshops and external experts would assist in developing national capacity for environment data collection and management systems, identification of areas of environmental and socioeconomic importance, and establishment of national priority areas. This information would be used to create national environmental sensitivity maps. This component would also include expertise to assist with creating sustainable institutional arrangements to collect and manage environmental information, and upgrade and update sensitivity maps as needed. This would allow countries, (with the assistance of short-term external consultants), to prepare and update the national contingency plans and the related detailed operational manuals as needed. During the second

phase, national contingency plans would be tested and exercises carried out. Lessons learned will be used to further improve the national contingency plans.

Component C: Oil spill response equipment — US\$1,265.4 thousand

This component would consist of the following three main activities:

1. *Evaluation of the local situation.* This would involve: (a) assessment of local oil handling facilities, and of the potential impacts of accidents on the surrounding environment, human health and economic activities; (b) estimation of the types of operational incidents that could occur and the quantities and types of oil that could be released in the event of an accident; (c) appraisal of local climatic and sea conditions that could affect the fate of oil on water; (d) with the terminal operator and harbor and other relevant authorities, creation of appropriate response strategy in the event of an accident, that meets the needs of the technical and operational capabilities of the terminal personnel; and (e) broad identification of the equipment (for example, booms, weirs, discs, vacuum skimmers) required to carry out this strategy.
2. *Specification of equipment needs.* The list would specify equipment needs in generic terms (including information on lengths, capacity and number of units should be specified) and to be suitable for competitive bidding;
3. *Training in equipment operation and maintenance.* This activity would involve: (a) preparation of a schedule of skills needed to perform the maintenance specified for that type of equipment; and (b) development of a training program that provides the level of competence required to carry out the designated maintenance program.

Component D: National capacity building — US\$604.6 thousand

This component would involve: (a) designing and conducting workshops involving experts on subjects such as environmental sensitivity mapping, project management, convention implementation, and others; (b) training of trainers; (c) provision of expert advice and guidance in the specific matters relating to national contingency plans, oil spill equipment, fate and effects of oil in the marine environment, risk assessment and development of appropriate response strategies; (d) support to allow senior government officials to attend the main international seminars on oil pollution, technology and related matters; and (e) expertise on developing, reviewing and testing an oil spill response manual.

Component E: Regional institutional strengthening — US\$1,121.6 thousand

There is no oil spill response plan at present for the region, although there is a protocol¹ under the UNEP Regional Seas Programme (The Nairobi Convention) that calls for one to be provided.

¹ Protocol concerning Co-operation in Combating Marine Pollution in Cases of Emergency in the Eastern African Region.

This however does not give any practical response capability, options or facilities. This component would develop a regional plan to organize a response to a major spill. Specifically, the plan would:

1. Arrange for the importation, handling and deployment of supplementary equipment, and the mobilization of expertise and trained personnel to respond to a major spill in the region;
2. Be based on individual national oil spill contingency plans and the outcome of the risk assessment and the individual country environmental sensitivity maps; and
3. Specify arrangements for initial spill reporting and communication within the region and mobilization of immediate mutual aid and support, the allocation of roles and responsibilities, training of personnel on a regional basis, exchange of information and opportunities for joint training and exercises of national response team personnel, facilitation of inter-island movement of people and equipment, maintenance of lists of resources available to the members and means of accessing the resources.

This component will comprise support and technical assistance to all beneficiary countries for project management; development of regional agreements for cooperation; awareness raising, training and joint exercises; regional contingency planning, and establishment of a regional oil spill response coordinating center. The plan would be developed in conjunction with the relevant government departments and industry in South Africa, and be used as an opportunity to establish strong links with this country, which has resources that can be used to assist the member countries increase their own oil spill response capacity.

Project implementation arrangements

The overall coordination of the project as well as the implementation of the regional component will be carried out by a project management unit (PMU), established at the regional level under the IOC Secretariat and headed by a regional coordinator (already appointed). This unit, under the guidance of a steering committee (proposed to be headed by the Secretary General of the IOC, and comprised of senior officials responsible for environment of each of the beneficiary countries) will be also responsible and accountable for the overall monitoring of the project. The national components of the project will be implemented through a project implementation coordinator (PIC) from the ministry of environment of each country. The PIC will coordinate the different activities to be carried out by the relevant executing agencies in each country. The PMU will benefit from technical assistance support for project management, to be contracted through the IOC Secretariat. This technical assistance will also support the PICs, as required. Technical expertise will also be used, when needed, for the PMU and PICs, in improving technical capacity in oil spill response management and project monitoring. The steering committee will ensure national and regional interagency coordination, and coordination between all donors. Consultants and equipment to be financed under the GEF grant will be procured according to World Bank procurement guidelines. Monitoring and evaluation will be carried out at two levels: (a) to determine the progress of the project; and (b) to monitor the efficiency of

national capability. Monitoring and evaluation will be carried over the duration of the project by all involved parties, through joint regular supervision and review. The project would be implemented over a period of four calendar years and five fiscal years, completed by December 31, 2002, and closed by June 30, 2003.

Procurement

All procurement for the national components as well as for the regional component will be carried out by the IOC through the PMU. Goods wholly or partly financed by GEF/Bank would be procured in accordance with the Bank's guidelines for Procurement under IBRD Loans and IDA Credits published in January 1995 and revised in January and August 1996 and September 1997. Consultancy services wholly or partly financed by GEF/Bank would be procured in accordance with the Bank's Guidelines for Selection and Employment of Consultants by World Bank Borrowers published in January 1997 and revised in September 1997. The PMU responsible for procurement will be strengthened to ensure that staff have adequate skills and competence to implement the project. During negotiations assurances will be obtained from IOC that the procurement arrangements will be followed during project implementation.

Accounting, financial reporting and auditing arrangements

Under the project, IOC will implement (before June 30, 1999) a project accounting system tracking the cost of the various goods and services provided under the project, according to the "Financial, Accounting, Reporting, and Auditing Handbook," dated January 1995 and published by the World Bank. It will keep separate project accounts together with their statutory financial statements. Terms of reference for annual audits of project accounts and semi-annual audits of the Statement of Expenditures (SOE) have been agreed upon at negotiations. Auditing will be carried out by independent auditors acceptable to the Bank, and the reports of such audits will be submitted to the Bank no later than six months after the end of the IOC's fiscal year for the project accounts and no later than three months after the end of each calendar semester for the SOEs.

Monitoring and evaluation arrangements

Supervision. The Bank will devote some 60 staff weeks for supervision of grant progress through fiscal 2003. During the first three years, supervision will focus on progress towards achieving specific objectives such as ratification of conventions, procurement of services, set up and implementation of the national and regional contingency plans. Particular attention would be given during supervision and project reviews to implementation of the institutional and financial sustainability set up and the training program.

Monitoring. Overall project monitoring will be based on indicators confirmed at appraisal (Annex 1) and the project implementation plan to be finalized by the IOC and agreed during negotiations. Monitoring will be carried out by the steering committee, chaired by IOC, and assisted by consultants as necessary. Progress under each project component will be monitored and coordinated by IOC through the PMU under the guidance of the steering committee.

Progress reports will be prepared by IOC every six months, commencing in January 1999, and submitted to the Bank within one month thereafter. No later than three months after the closing date of the project, the IOC will prepare and furnish to the Bank a report on the execution of the project, its costs and the benefits derived and to be derived from it.

Mid-term review. A mid-term review will be carried out no later than December 2000 by the Bank, together with IOC and the other involved parties. In addition to covering all areas included in annual reviews, the mid-term review will assess the implementation status of the national and regional components, institutional and financial arrangements, the cost-recovery system and the legal framework for regional cooperation. During the mid-term review, the institutional and financial sustainability action plans of each beneficiary country will be reviewed and reassessed. Prior to the mid-term review, IOC will contract a consultant (under GEF finance) to review and assess the progress of project implementation and prepare the necessary documentation for the review. In particular, the review will consider and discuss the results of the examination of the project implementation plan (PIP) and recommendations for updating/amending the PIP for the remainder of project implementation. It is expected that the mid-term review will result in determination of a general framework for the sustainable institutional and financial arrangements between the concerned countries and between the governments and the local and international oil industries.

Annex 3

Annex 3
West Indian Ocean Islands
Oil Spill Contingency Planning Project
Table A
Components Project Cost Summary

<u>Project Components</u>	(US\$ '000)				
	Local	Foreign	Total	% Foreign Exchange	% Total Base Costs
A. Legislation and regulation for conventions	40.5	436.3	476.8	92.0	12.0
B. National oil spill contingency plans (NCP)	208.6	802.2	1,010.8	79.0	25.0
C. Oil spill response equipment	11.6	1,084.7	1,096.3	99.0	27.0
D. National capacity building	74.9	450.2	525.1	86.0	13.0
E. Regional institutional strengthening	248.5	702.7	951.2	74.0	23.0
Total BASELINE COSTS	584.1	3,476.0	4,060.1	86.0	100.0
Physical Contingencies	40.8	288.9	329.7	88.0	8.0
Price Contingencies	70.3	176.3	246.6	71.0	6.0
Total PROJECT COSTS	695.2	3,941.3	4,636.5	85.0	114.0

Note: Figures may not add up to total due to rounding

Annex 3
West Indian Ocean Islands
Oil Spill Contingency Planning Project
Table B
Components Project Cost Summary

<u>Project Components</u>	(US\$ '000)				
	Local	Foreign	Total	% Foreign Exchange	% Total Base Costs
A. Legislation and regulation for conventions					
1. Training abroad	0.0	206.8	206.8	100.0	5.0
2. Regional workshop	4.9	27.9	32.8	85.0	1.0
3. Legal expertise for ratification	13.1	74.5	87.6	85.0	2.0
4. National Legal framework upgrading	22.4	127.2	149.6	85.0	4.0
Subtotal Legislation and regulation for conventions	40.5	436.3	476.8	92.0	12.0
B. National oil spill contingency plans (NCP)					
1. Oil spill response basic training	16.0	179.0	195.0	92.0	5.0
2. NCP expertise and training	2.8	53.4	56.3	95.0	1.0
3. Environmental sensitivity mapping	13.6	129.8	143.4	90.0	4.0
4. NCP review	1.4	26.7	28.1	95.0	1.0
5. NCP testing/updating	40.4	379.6	420.0	90.0	10.0
6. NCP coordination	134.4	33.6	168.0	20.0	4.0
Subtotal National oil spill contingency plans (NCP)	208.6	802.2	1,010.8	79.0	25.0
C. Oil spill response equipment					
1. Expertise for equipment specification	1.7	30.4	32.0	95.0	1.0
2. Procurement of equipment	0.0	900.0	900.0	100.0	22.0
3. Equipment operator training	2.0	28.7	30.6	94.0	1.0
4. National exercises	6.0	34.0	40.0	85.0	1.0
5. Maintenance training	2.0	28.7	30.6	94.0	1.0
6. Equipment storage	0.0	63.0	63.0	100.0	2.0
Subtotal Oil spill response equipment	11.6	1,084.7	1,096.3	99.0	27.0
D. National capacity building					
1. Workshops	18.5	89.4	107.8	83.0	3.0
2. Training of trainers	9.1	65.5	74.6	88.0	2.0
3. External expertise	26.3	148.8	175.0	85.0	4.0
4. International seminars	11.4	76.8	88.2	87.0	2.0
5. Expertise for oil spill response manual	9.6	69.9	79.5	88.0	2.0
Subtotal National capacity building	74.9	450.2	525.1	86.0	13.0
E. Regional institutional strengthening					
1. Convention workshops	5.8	42.4	48.2	88.0	1.0
2. Assistance for project coordination	92.6	362.4	455.0	80.0	11.0
3. Training and seminars	8.7	63.6	72.3	88.0	2.0
4. Regional exercises	5.8	42.4	48.2	88.0	1.0
5. Regional contingency plan and agreements	3.4	19.1	22.5	85.0	1.0
6. Regional coordination center	47.5	42.5	90.0	47.0	2.0
7. Expertise and studies	84.8	130.3	215.0	61.0	5.0
Subtotal Regional institutional strengthening	248.5	702.7	951.2	74.0	23.0
	0.0	0.0	0.0	0.0	0.0
Total BASELINE COSTS	584.1	3,476.0	4,060.1	86.0	100.0
Physical Contingencies	40.8	288.9	329.7	88.0	8.0
Price Contingencies	70.3	176.3	246.6	71.0	6.0
Total PROJECT COSTS	695.2	3,941.3	4,636.5	85.0	114.0

Note: Figures may not add up to total due to rounding

Annex 3
West Indian Ocean Islands
Oil Spill Contingency Planning Project
Table C

Components Project Cost Summary								
(Rupees '000)			(US\$ '000)					
						%	% Total	
	Local	Foreign	Total	Local	Foreign	Total	Foreign Exchange	Base Costs
A. Legislation and regulation for conventions								
1. Training abroad	0.0	5,065.4	5,065.4	0.0	206.8	206.8	100.0	5.0
2. Regional workshop	120.5	683.1	803.6	4.9	27.9	32.8	85.0	1.0
3. Legal expertise for ratification	322.0	1,824.8	2,146.8	13.1	74.5	87.6	85.0	2.0
4. National Legal framework upgrading	549.8	3,115.4	3,665.2	22.4	127.2	149.6	85.0	4.0
Subtotal Legislation and regulation for conventions	992.3	10,688.6	11,681.0	40.5	436.3	476.8	92.0	12.0
B. National oil spill contingency plans (NCP)								
1. Oil spill response basic training	391.4	4,386.1	4,777.5	16.0	179.0	195.0	92.0	5.0
2. NCP expertise and training	68.9	1,309.2	1,378.1	2.8	53.4	56.3	95.0	1.0
3. Environmental sensitivity mapping	334.1	3,179.2	3,513.3	13.6	129.8	143.4	90.0	4.0
4. NCP review	34.5	654.6	689.1	1.4	26.7	28.1	95.0	1.0
5. NCP testing/updating	989.6	9,300.4	10,290.0	40.4	379.6	420.0	90.0	10.0
6. NCP coordination	3,292.8	823.2	4,116.0	134.4	33.6	168.0	20.0	4.0
Subtotal National oil spill contingency plans (NCP)	5,111.2	19,652.8	24,764.0	208.6	802.2	1,010.8	79.0	25.0
C. Oil spill response equipment								
1. Expertise for equipment specification	40.6	744.4	785.0	1.7	30.4	32.0	95.0	1.0
2. Procurement of equipment	0.0	22,050.0	22,050.0	0.0	900.0	900.0	100.0	22.0
3. Equipment operator training	48.2	702.1	750.3	2.0	28.7	30.6	94.0	1.0
4. National exercises	147.0	833.0	980.0	6.0	34.0	40.0	85.0	1.0
5. Maintenance training	48.2	702.1	750.3	2.0	28.7	30.6	94.0	1.0
6. Equipment storage	0.0	1,543.5	1,543.5	0.0	63.0	63.0	100.0	2.0
Subtotal Oil spill response equipment	284.0	26,575.1	26,859.1	11.6	1,084.7	1,096.3	99.0	27.0
D. National capacity building								
1. Workshops	452.0	2,189.1	2,641.1	18.5	89.4	107.8	83.0	3.0
2. Training of trainers	222.7	1,605.0	1,827.7	9.1	65.5	74.6	88.0	2.0
3. External expertise	643.1	3,644.4	4,287.5	26.3	148.8	175.0	85.0	4.0
4. International seminars	280.0	1,880.9	2,160.9	11.4	76.8	88.2	87.0	2.0
5. Expertise for oil spill response manual	236.3	1,711.4	1,947.8	9.6	69.9	79.5	88.0	2.0
Subtotal National capacity building	1,834.2	11,030.8	12,865.0	74.9	450.2	525.1	86.0	13.0
E. Regional institutional strengthening								
1. Convention workshops	141.9	1,039.0	1,180.9	5.8	42.4	48.2	88.0	1.0
2. Assistance for project coordination	2,269.3	8,878.2	11,147.5	92.6	362.4	455.0	80.0	11.0
3. Training and seminars	212.8	1,558.6	1,771.4	8.7	63.6	72.3	88.0	2.0
4. Regional exercises	142.2	1,038.7	1,180.9	5.8	42.4	48.2	88.0	1.0
5. Regional contingency plan and agreements	82.7	468.6	551.3	3.4	19.1	22.5	85.0	1.0
6. Regional coordination center	1,163.8	1,041.3	2,205.0	47.5	42.5	90.0	47.0	2.0
7. Expertise and studies	2,076.4	3,191.1	5,267.5	84.8	130.3	215.0	61.0	5.0
Subtotal Regional institutional strengthening	6,089.0	17,215.4	23,304.4	248.5	702.7	951.2	74.0	23.0
Total BASELINE COSTS	14,310.5	85,162.7	99,473.4	584.1	3,476.0	4,060.1	86.0	100.0
Physical Contingencies	1,000.1	7,078.5	8,078.7	40.8	288.9	329.7	88.0	8.0
Price Contingencies	2,765.1	10,231.3	12,996.4	70.3	176.3	246.6	71.0	6.0
Total PROJECT COSTS	18,076.0	102,472.5	120,548.5	695.2	3,941.3	4,636.5	85.0	114.0

Note: Figures may not add up to total due to rounding

Annex 3
West Indian Ocean Islands
Oil Spill Contingency Planning Project
Table D
Project Components by Year -- Totals Including Contingencies
(US\$ '000)

	Totals Including Contingencies					
	1999	2000	2001	2002	2003	Total
A. Legislation and regulation for conventions						
1. Training abroad	-	234.3	-	-	-	234.3
2. Regional workshop	18.1	18.6	-	-	-	36.7
3. Legal expertise for ratification	-	93.6	-	-	-	93.6
4. National Legal framework upgrading	80.3	82.5	-	-	-	162.7
Subtotal Legislation and regulation for conventions	98.4	428.9	-	-	-	527.3
B. National oil spill contingency plans (NCP)	-	-	-	-	-	-
1. Oil spill response basic training	-	151.6	62.1	-	-	213.8
2. NCP expertise and training	-	30.0	-	31.3	-	61.3
3. Environmental sensitivity mapping	-	78.6	-	82.6	-	161.3
4. NCP review	-	-	-	31.3	-	31.3
5. NCP testing/updating	-	224.7	-	236.1	-	460.8
6. NCP coordination	16.5	38.5	40.8	43.2	50.1	189.1
Subtotal National oil spill contingency plans (NCP)	16.5	523.4	102.9	424.7	50.1	1,117.6
C. Oil spill response equipment	-	-	-	-	-	-
1. Expertise for equipment specification	-	-	34.9	-	-	34.9
2. Procurement of equipment	391.4	-	-	647.1	-	1,038.5
3. Equipment operator training	-	-	-	34.5	-	34.5
4. National exercises	-	-	-	24.0	24.7	48.6
5. Maintenance training	-	-	-	34.5	-	34.5
6. Equipment storage	-	-	-	74.3	-	74.3
Subtotal Oil spill response equipment	391.4	-	34.9	814.4	24.7	1,265.4
D. National capacity building	-	-	-	-	-	-
1. Workshops	-	38.8	40.0	42.4	-	121.2
2. Training of trainers	-	-	42.7	43.8	-	86.5
3. External expertise	-	65.6	67.4	71.4	-	204.3
4. International seminars	-	32.6	33.5	35.4	-	101.6
5. Expertise for oil spill response manual	-	-	91.0	-	-	91.0
Subtotal National capacity building	-	137.1	274.5	193.0	-	604.6
E. Regional institutional strengthening	-	-	-	-	-	-
1. Convention workshops	-	-	55.1	-	-	55.1
2. Assistance for project coordination	124.5	136.2	140.3	144.7	-	545.7
3. Training and seminars	-	-	-	42.4	43.6	86.0
4. Regional exercises	-	-	-	56.6	-	56.6
5. Regional contingency plan and agreements	-	-	-	27.0	-	27.0
6. Regional coordination center	-	-	33.1	34.7	37.4	105.2
7. Expertise and studies	133.8	35.8	37.4	39.1	-	246.1
Subtotal Regional institutional strengthening	258.3	172.0	266.0	344.5	81.0	1,121.6
Total PROJECT COSTS	764.5	1,261.4	678.4	1,776.5	155.7	4,636.5

Annex 3
West Indian Ocean Islands
Oil Spill Contingency Planning Project
Table E
Summary Project Cost by Country
(US\$ '000)

Project Components	Total	Comoros	Madagascar	Mauritius	Seychelles	Regional
A. Legislation and regulation for conventions						
Subtotal for A	476.8	109.1	175.1	96.3	96.3	0.0
B. National oil spill contingency plans (NCP)						
Subtotal for B	1,010.8	290.8	321.7	199.1	199.1	0.0
C. Oil spill response equipment						
Subtotal for C	1,096.3	111.4	574.1	160.0	250.8	0.0
D. National capacity building						
Subtotal for D	525.1	129.5	183.5	143.3	68.7	0.0
E. Regional institutional strengthening						
Subtotal for E	951.2	0.0	0.0	0.0	0.0	951.2
TOTAL BASELINE COST	4,060.1	640.9	1,254.4	598.8	614.9	951.2
Physical & price contingencies	576.3	91.0	171.8	85.0	87.3	141.3
Sub-total	576.3	91.0	171.8	85.0	87.3	141.3
TOTAL PROJECT COST	4,636.5	731.9	1,426.1	683.7	702.2	1,092.5

Annex 3
West Indian Ocean Islands
Oil Spill Contingency Planning Project
Table F
Cost Table by Component and Country
(US\$ '000)

Project components	Total	Comoros	Madagascar	Mauritius	Seychelle	Regional
A. Legislation and regulation for conventions						
1. Training abroad	206.8	41.4	82.7	41.4	41.4	0.0
2. Regional workshop	32.8	8.2	8.2	8.2	8.2	0.0
3. Legal expertise for ratification	87.6	22.2	28.1	18.7	18.7	0.0
4. National Legal framework upgrading	149.6	37.4	56.1	28.1	28.1	0.0
Subtotal Legislation and regulation for conventions	476.8	109.1	175.1	96.3	96.3	0.0
B. National oil spill contingency plans (NCP)						
1. Oil spill response basic training	195.0	65.0	65.0	32.5	32.5	0.0
2. NCP expertise and training	56.3	22.5	33.8	0.0	0.0	0.0
3. Environmental sensitivity mapping	143.4	50.7	64.7	14.0	14.0	0.0
4. NCP review	28.1	5.6	11.3	5.6	5.6	0.0
5. NCP testing/updating	420.0	105.0	105.0	105.0	105.0	0.0
6. NCP coordination	168.0	42.0	42.0	42.0	42.0	0.0
Subtotal National oil spill contingency plans (NCP)	1,010.8	290.8	321.7	199.1	199.1	0.0
C. Oil spill response equipment						
1. Expertise for equipment specification	32.0	10.7	21.4	0.0	0.0	0.0
2. Procurement of equipment	900.0	75.0	450.0	150.0	225.0	0.0
3. Equipment operator training	30.6	4.4	21.9	0.0	4.4	0.0
4. National exercises	40.0	10.0	10.0	10.0	10.0	0.0
5. Maintenance training	30.6	4.4	21.9	0.0	4.4	0.0
6. Equipment storage	63.0	7.0	49.0	0.0	7.0	0.0
Subtotal Oil spill response equipment	1,096.3	111.4	574.1	160.0	250.8	0.0
D. National capacity building						
1. Works Project implementation Workshops	107.8	23.1	38.5	23.1	23.1	0.0
2. Traini Training for future trainers	74.6	0.0	0.0	74.6	0.0	0.0
3. Extern External Expertise	175.0	54.4	80.4	20.1	20.1	0.0
4. Intern International Seminars	88.2	18.9	31.5	18.9	18.9	0.0
5. Expert Expertise for spill response manual	79.5	33.1	33.1	6.6	6.6	0.0
Subtotal National capacity building	525.1	129.5	183.5	143.3	68.7	0.0
E. Regional institutional strengthening						
1. Convention workshops	48.2	0.0	0.0	0.0	0.0	48.2
2. Assistance for project coordination	455.0	0.0	0.0	0.0	0.0	455.0
3. Training and seminars	72.3	0.0	0.0	0.0	0.0	72.3
4. Regional exercises	48.2	0.0	0.0	0.0	0.0	48.2
5. Regional contingency plan and agreements	22.5	0.0	0.0	0.0	0.0	22.5
6. Regional coordination center	90.0	0.0	0.0	0.0	0.0	90.0
7. Expertise and studies	215.0	0.0	0.0	0.0	0.0	215.0
Subtotal Regional institutional strengthening	951.2	0.0	0.0	0.0	0.0	951.2
TOTAL BASELINE COST	4,060.1	640.9	1,254.4	598.8	614.9	951.2
Physical & price contingencies	576.3	91.0	171.8	85.0	87.3	141.3
Sub-total	576.3	91.0	171.8	85.0	87.3	141.3
TOTAL PROJECT COST	4,636.5	731.9	1,426.1	683.7	702.2	1,092.5

Annex 3
West Indian Ocean Islands
Oil Spill Contingency Planning Project

Table G
Components by Financiers - Totals Including Contingencies
(US\$ '000)

	IMO	Réunion	I.O.C.	South Africa	GEF	Indian Ocean Islands	International			
	Amount	Amount	Amount	Amount	Amount	Governments	Industry	Local Industry	Total	%
	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Amount	
A. Legislation and regulation for conventions										
1. Training abroad	-	-	-	-	234.3	-	-	-	234.3	5.1
2. Regional workshop	-	-	-	-	36.7	0.0	-	-	36.7	0.8
3. Legal expertise for ratification	27.9	-	-	-	65.7	-	-	-	93.6	2.0
4. National Legal framework upgrading	48.9	-	-	-	113.8	0.0	-	-	162.7	3.5
Subtotal Legislation and regulation for convention	76.8	-	-	-	450.6	0.0	-	-	527.3	11.4
B. National oil spill contingency plans (NCP)	-	-	-	-	-	-	-	-	-	-
1. Oil spill response basic training	-	45.6	-	45.6	122.6	-	-	-	213.8	4.6
2. NCP expertise and training	-	-	-	19.7	21.9	0.0	19.7	-	61.3	1.3
3. Environmental sensitivity mapping	-	27.6	-	27.6	106.1	0.0	-	-	161.3	3.5
4. NCP review	-	-	-	-	11.2	0.0	20.1	-	31.3	0.7
5. NCP testing/updating	-	-	-	22.2	182.9	210.2	22.2	23.3	460.8	9.9
6. NCP coordination	-	-	-	-	-	189.1	-	-	189.1	4.1
Subtotal National oil spill contingency plans (NCP)	-	73.2	-	115.1	444.7	399.3	62.0	23.3	1,117.6	24.1
C. Oil spill response equipment	-	-	-	-	-	-	-	-	-	-
1. Expertise for equipment specification	-	22.1	-	-	12.9	0.0	-	-	34.9	0.8
2. Procurement of equipment	-	-	-	-	647.1	265.1	-	126.3	1,038.5	22.4
3. Equipment operator training	-	18.8	-	-	15.7	-	-	-	34.5	0.7
4. National exercises	-	-	-	-	48.6	-	-	-	48.6	1.0
5. Maintenance training	-	18.8	-	-	15.7	-	-	-	34.5	0.7
6. Equipment storage	-	-	-	-	74.3	-	-	-	74.3	1.6
Subtotal Oil spill response equipment	-	59.6	-	-	814.4	265.1	-	126.3	1,265.4	27.3
D. National capacity building	-	-	-	-	-	-	-	-	-	-
1. Workshops	-	12.0	-	12.0	72.6	12.6	12.0	-	121.2	2.6
2. Training of trainers	-	14.9	-	-	71.7	-	-	-	86.5	1.9
3. External expertise	-	-	-	-	204.3	0.0	-	-	204.3	4.4
4. International seminars	-	-	-	-	89.0	0.0	12.6	-	101.6	2.2
5. Expertise for oil spill response manual	-	-	-	8.0	75.0	-	8.0	-	91.0	2.0
Subtotal National capacity building	-	26.8	-	20.0	512.6	12.6	32.6	-	604.6	13.0
E. Regional institutional strengthening	-	-	-	-	-	-	-	-	-	-
1. Convention workshops	-	-	-	10.1	45.0	0.0	-	-	55.1	1.2
2. Assistance for project coordination	-	-	43.0	-	502.7	0.0	-	-	545.7	11.8
3. Training and seminars	-	-	-	7.8	70.4	0.0	7.8	-	86.0	1.9
4. Regional exercises	-	3.4	-	3.4	46.4	0.0	3.4	-	56.6	1.2
5. Regional contingency plan and agreements	-	-	-	-	27.0	-	-	-	27.0	0.6
6. Regional coordination center	-	-	-	-	57.3	47.9	-	-	105.2	2.3
7. Expertise and studies	-	5.0	-	10.0	180.8	0.0	50.2	-	246.1	5.3
Subtotal Regional institutional strengthening	-	8.4	43.0	31.3	929.6	47.9	61.4	-	1,121.6	24.2
Total PROJECT COSTS	76.8	168.0	43.0	166.4	3,151.8	724.9	156.0	149.6	4,636.5	100.0
Estimated % of Total	1.7	3.6	0.9	3.6	68.0	15.6	3.4	3.2		

Annex 4

West Indian Ocean Islands

Oil Spill Contingency Planning Project

Incremental Cost Analysis

Regional Context and Broad Development Goals

The waters surrounding the island countries of the West Indian Ocean are ecologically rich. Marine and coastal ecosystems include extensive coral reefs that harbor several unique and endangered species of flora and fauna, such as the coelacanth. Sea turtles, dugons, and many species of sea birds also thrive in the region.

While the island countries vary in terms of their natural resources, economic basis and level of income (Comoros and Madagascar are among the poorest countries in the world, with 1996 per capita incomes of US\$460 and US\$240 respectively; Mauritius is a middle-income country with a per capita income of approximately US\$3,700, and Seychelles is upper-middle income with a per capita income of US\$6,960), all benefit significantly from tourism and fishing. Tourism in particular, which is based primarily on the countries' beaches and protected areas, offers great potential for future development in all countries. In Mauritius, for example, value-added in tourism is already growing by about 12 percent per year. The governments of the island nations recognize that their future economic development depends on the health of their natural resources and all have completed national environmental action plans or management plans to guide their future development. These plans all name the protection of marine and coastal ecosystems as priorities for the countries.

The western Indian Ocean is one of the most important and widely-used oil shipping routes in the world. It is estimated that 350 million tons of crude oil, more than 30 percent of world petroleum production, pass near or through the coastal waters of the Indian Ocean island states each year, in transit to North America, Europe and Asia. Thus more than 5,000 tanker voyages per year take place through the sensitive coastal waters of Comoros and Madagascar, and pass near the World Heritage Site of Aldabra Atoll of Seychelles. In the last ten years, the amount of oil transported through the region has risen by over 60 percent. Most of the oil is transported on about 700 very large crude carriers (250,000 tonnes and over) and 4,000 medium-sized tankers (average of 60,000 tons). These tankers usually pass through the Mozambique Channel and between the islands of Grand Comoros and Aldabra. Smaller tankers pass to the east of Madagascar from ports in Southeast Asia. On average, more than 20 large oil tankers are in transit through the coastal waters of the island states every day. A maritime accident involving the discharge of large quantities of oil would have a disastrous impact on the fragile and sensitive natural resources of the concerned countries, and on their economies, which are not sufficiently diversified to survive such an incident without serious damage.

Of the four countries, only Mauritius and Seychelles have taken precautions to achieve a measure of protection against Tier 1 spills by acquiring specialized cleanup equipment for use at oil handling facilities. A risk and impact assessment study was carried out to evaluate (a) the likelihood that oil spills will occur, from small operational spills at oil handling facilities (Tier 1) to larger and more serious spills occurring in waters away from oil handling ports and harbors, for which a response would be required (Tier 3); and (b) the damage that would result in the event of an oil spill.

The study shows clearly that in all countries real risks of small operational spills occurring exist; there have been many such incidents in recent years. It also shows that Tier 2 events — during which up to 500 tons oil are spilled at or near harbors by vessels going aground or being involved in collisions — would have a serious impact locally and may well negatively effect national and regional tourism.

The study has examined several accident scenarios in which an outflow of 50,000 tons of oil could occur at different locations within the region (Tier 3 spills). It finds that accidents involving very large vessels carrying crude oil through the region would likely overwhelm the organization and response arrangements of the countries concerned, and could have devastating impacts on the environment of the region damaging coral reefs, seagrass beds, mangroves, beaches and shorelines, dugons, turtles and seabirds. A large oil spill could also severely harm the economies of the small island developing states by damaging fishing grounds, amenity beaches, diving and deep-sea fishing areas; disrupting shipping; and shutting down activities that depend on seawater intakes to aquaria or industrial plants. Annex 5 contains the executive summary of the study.

While weather during much of the year is generally good, with calm seas and good visibility, weather patterns during the cyclone season (December through April) are quite unpredictable, creating risks of shipping accidents and discharge of marine pollutants. There are few navigational hazards through the region, and to date there have been few recorded shipping accidents in the region. However, the large numbers of tankers, and the great size and carrying capacity of the vessels involved, create the risk that a very large spill occurs in the Mozambique Channel. Local deliveries of petroleum products also involve some risk of environmental damage, which is exacerbated by the lack of oil spill response capacity, particularly in Madagascar and Comoros.

Baseline Scenario

The countries of the region are committed to protecting their marine and coastal ecosystems and developing regional and national oil spill response capacity. Seychelles has ratified the International Convention on Oil Pollution Preparedness, Response and Cooperation (OPRC90) and have developed national oil spill contingency plans.² However its oil spill response capacity

² This convention defines national obligations to develop and maintain adequate capacity to respond to oil spill emergencies and facilitates international assistance in response to oil pollution incidents.

remains short of the convention's requirements. Comoros, Madagascar and Mauritius have committed to ratifying the convention and, given the necessary financial assistance, to meeting its obligations. However, these country do not have sufficient resources to undertake these activities without assistance from donors. Currently, regional oil spill response capacity resides only in South Africa and its Regional Response Center.

Costs. The governments of Seychelles and Mauritius have initiated national contingency planning to facilitate their national response to an oil spill emergency and have in addition, started to develop national legal and regulatory frameworks to ensure compliance with the relevant international conventions, and to build some oil spill response capacity. Neither Comoros nor Madagascar would undertake these activities without the GEF alternative. Under the baseline scenario it is expected that the four small island developing states would spend a total of about US\$450,200 during fiscal 1999–2002 to acquire some equipment to deal with oil spills and set up some very limited oil spill response capacity.

Benefits. Implementation of the baseline scenario would result in increased capacity for Mauritius and Seychelles to cope with oil spills occurring near their territories. This would somewhat reduce the risk of contamination of international waters. However, implementation of the baseline scenario would not ensure protection of globally significant marine and coastal resources or significantly reduce the risk of contamination of international waters, since no regional capacity would be developed.

Global Environmental Consequences

Under the baseline scenario, neither Comoros nor Madagascar would be likely to develop any capacity for meeting oil spill emergencies. The threats to their marine and coastal habitats, among the most important in the world, would therefore be significant. Seychelles and Mauritius would develop limited national capacity primarily for dealing with problems arising in their home territories, so may be able to respond adequately to Tier 1 oil spills. They would not have sufficient capacity to deal with a more serious accident, however. No regional capacity would be developed to enable the nations to join together to respond to accidents regardless of where they occurred in the region, including in international waters.

GEF Alternative

The GEF alternative would enable the islands of the west Indian Ocean to create and maintain a regional oil spill response capacity. This would make it possible to address accidents rapidly wherever they occurred in the region. Rapid response is critical to minimize damage from oil spills. Building regional capacity would also create a framework for the cooperation among the countries in other areas of shared concern, such as sustainable fisheries management. The GEF alternative will also provide the catalyst to bring governments and the local and international oil shipping industries together in a cooperative partnership that will be sustained through the establishment of a permanent regional collaboration and financing mechanism. Together governments and oil companies will develop sustainable institutional and financing

to maintain oil spill response capacity. Further, oil companies have pledged to provide technologies and expertise to address oil spill emergencies.

Costs. The total cost of the GEF alternative is estimated to be US\$4,636 thousand, detailed as follows: (a) legal and regulatory framework for compliance with relevant conventions — US\$527 thousand (*GEF financing — US\$451 thousand*); (b) national contingency planning — US\$1,118 thousand (*GEF financing — US\$445 thousand*); (c) oil spill response equipment — US\$1,265 thousand (*GEF financing — US\$814 thousand*); (d) national capacity building — US\$605 thousand (*GEF financing — US\$513 thousand*); (e) regional institutional strengthening — US\$1,122 thousand (*GEF financing — US\$930 thousand*).

The proposed project would leverage considerable in-kind resources from contributors, which would not be available under the baseline scenario. South Africa, Réunion, the oil industry, the International Maritime Organization, and the Indian Ocean Commission have committed to contributing US\$760,000 for national contingency planning, equipment, the training of operators and joint exercises, national capacity building and regional institutional strengthening.

Benefits. Implementation of the GEF alternative would make it possible to develop true regional capability to respond to oil spill accidents in the west Indian Ocean region. This would generate global benefits by limiting contamination of international waters and protecting the globally important marine and coastal ecosystems such as the World Heritage Site of Aldabra Atoll of Seychelles and the sea turtle breeding grounds of Île Tromelin. It would also generate regional benefits by creating a framework for future cooperation in matters of common concern, and by developing sustainable financing mechanisms for the regional initiative between countries and countries and the oil industry.

Domestic Benefits

The GEF alternative would provide national benefits by reducing risk of catastrophic damage to beaches and coastal areas important to the tourist industry and to fishing grounds upon which many residents of the west Indian Ocean island nations depend for food and income.

Incremental Costs

The difference between the cost of the baseline scenario (US\$450,200) and the cost of the GEF alternative (US\$4.636 million) is estimated to be US\$4.186 million. This represents the incremental cost for creating regional oil spill response capacity by: (a) formulating the legal and regulatory framework for ratifying and complying with relevant conventions; (b) developing national contingency plans; (c) procuring oil spill response equipment for regional institutions; (d) national capacity building, and (e) strengthening regional institutions. The GEF is requested to provide a grant of US\$3.152 million to finance part of the incremental costs. This will act as a catalyst for donors and governments, who will contribute the remainder. Details are presented in Tables A–F.

Several donors have committed to participating in the project, provided GEF funds are made available. Réunion will provide US\$168,000, South Africa will provide US\$166,400, the International Maritime Organization will provide US\$76,800, the Indian Ocean Commission will provide US\$43,000, and the oil industry will provide US\$305,600, for a total of US\$759,800 (all contributions are in-kind). Donor support will not be available in the absence of a GEF project, and therefore their contributions are not counted as baseline costs.

Table A Incremental Cost Matrix: Summary

Costs US\$(000)		Domestic Benefits	Global Environment Benefits
Baseline			
A. Legislation and regulation for conventions	0.0	Reduced risk of contamination of beaches and fisheries, primarily in Mauritius and Seychelles.	No regional capacity would be developed. No global benefits would be generated.
B. National oil spill contingency plans (NCP)	127.9		
C. Oil spill response equipment	322.3		
D. National capacity building	0.0		
E. Regional institutional strengthening	0.0		
SUBTOTAL	450.2		
Alternative			
A. Legislation and regulation for conventions	527.3	<i>All island countries:</i> Reduced risk of contamination of beaches and fisheries.	Protection of globally significant marine and coastal resources. Prevention of transboundary pollution. Creation of regional capacity with sustainable institutional and financial arrangements to address other issues of regional concern, such as fishery management.
B. National oil spill contingency plans (NCP)	1,117.6		
C. Oil spill response equipment	1,265.4		
D. National capacity building	604.6		
E. Regional institutional strengthening	1,121.6		
SUBTOTAL	4,636.5		
Increment			
A. Legislation and regulation for conventions	527.3		
B. National oil spill contingency plans (NCP)	989.7		
C. Oil spill response equipment	943.1		
D. National capacity building	604.6		
E. Regional institutional strengthening	1,121.6		
SUBTOTAL	4,186.3		
GEF Grant	3,151.8		

Table B Incremental Cost Matrix: Component A — Legislation and regulations for conventions

Costs US\$(000)		Domestic Benefits	Global Environment Benefits
Baseline		No domestic benefits would be generated.	No regional capacity would be developed. No global benefits would be generated.
.Comoros	0.0		
.Madagascar	0.0		
.Mauritius	0.0		
.Seychelles	0.0		
SUBTOTAL	0.0		
Alternative		<i>All island countries:</i> Reduced risk of contamination of tourist beaches (in some countries tourism contributes up to 20 percent of GDP and employs up to 10 percent of the workforce); and fisheries (4 percent of GDP, and substantial subsistence food resources). Avoidance of social upheaval that may accompany the loss of employment opportunities and food resources.	Protection of globally significant marine and coastal resources in accordance with relevant international conventions. Prevention of transboundary pollution. Creation of regional capacity with sustainable institutional and financial arrangements able to rapidly respond to problems.
.Comoros	124.6		
.Madagascar	182.8		
.Mauritius	110.0		
.Seychelles	110.0		
SUBTOTAL	527.3		
Increment			
.Comoros	124.6		
.Madagascar	182.8		
.Mauritius	110.0		
.Seychelles	110.0		
SUBTOTAL	527.3		
GEF Grant	450.6		

Table C Incremental Cost Matrix: Component B — National oil spill contingency plans (NCP)

Costs US\$(000)		Domestic Benefits	Global Environment Benefits
Baseline		<i>Mauritius and Seychelles</i> : Reduced risk of contamination of beaches and fisheries. Comoros and Madagascar: Improved ability to respond to Tier 1 spills	No regional capacity would be developed. No global benefits would be generated.
.Comoros	11.1		
.Madagascar	22.3		
.Mauritius	55.6		
.Seychelles	38.9		
SUBTOTAL	127.9		
Alternative		<i>All island countries</i> : Reduced risk of contamination of marine and coastal resources important to tourism (in some countries tourism contributes up to 20 percent of GDP and employs up to 10 percent of the workforce); and fisheries (4 percent of GDP, and substantial subsistence food resources). Avoidance of social upheaval that may accompany the loss of employment opportunities and food resources.	Nations develop capacity to participate in regional initiative, improving the likelihood that spills are dealt with quickly, and damage contained. Globally important marine and coastal resources (coral reefs, seagrass beds, mangroves, beaches and shorelines, dugons, turtles seabirds) are protected. Regional cooperation among countries and between countries and the oil industry provides sustainable institutional and financial arrangements.
.Comoros	332.1		
.Madagascar	330.7		
.Mauritius	227.4		
.Seychelles	227.4		
SUBTOTAL	1,117.6		
Increment			
.Comoros	321.0		
.Madagascar	308.4		
.Mauritius	171.8		
.Seychelles	188.5		
SUBTOTAL	989.7		
GEF Grant	444.7		

Table D Incremental Cost Matrix: Component C — Oil spill response equipment

Costs US\$(000)		Domestic Benefits	Global Environment Benefits
Baseline		Mauritius and Seychelles: Reduced risk of contamination of beaches and fisheries.	No regional capacity would be developed. No global benefits would be generated.
.Comoros	0.0		
.Madagascar	0.0		
.Mauritius	166.7		
.Seychelles	155.6		
SUBTOTAL	322.3		
Alternative		<i>All island countries:</i> Reduced risk of contamination of marine and coastal resources important to tourism (in some countries tourism contributes up to 20 percent of GDP and employs up to 10 percent of the workforce); and fisheries (4 percent of GDP, and substantial subsistence food resources). Avoidance of social upheaval that may accompany the loss of employment opportunities and food resources.	Nations develop capacity to participate in regional initiative, improving the likelihood that spills are dealt with quickly, and damage contained. Globally important marine and coastal resources (coral reefs, seagrass beds, mangroves, beaches and shorelines, dugongs, turtles seabirds) are protected. Regional cooperation among countries and between countries and the oil industry provides sustainable institutional and financial arrangements.
.Comoros	127.2		
.Madagascar	669.1		
.Mauritius	182.7		
.Seychelles	286.3		
SUBTOTAL	1,265.4		
Increment			
.Comoros	127.2		
.Madagascar	669.1		
.Mauritius	16.0		
.Seychelles	130.7		
SUBTOTAL	943.1		
GEF Grant	814.4		

Table E Incremental Cost Matrix: Component D — National capacity building

Costs US\$(000)		Domestic Benefits	Global Environment Benefits
Baseline		None	None
.Comoros	0.0		
.Madagascar	0.0		
.Mauritius	0.0		
.Seychelles	0.0		
SUBTOTAL	0.0		
Alternative		<p><i>All island countries:</i> Reduced risk of contamination of marine and coastal resources important to tourism (in some countries tourism contributes up to 20 percent of GDP and employs up to 10 percent of the workforce); and fisheries (4 percent of GDP, and substantial subsistence food resources).</p> <p>Avoidance of social upheaval that may accompany the loss of employment opportunities and food resources.</p>	<p>Countries develop capacity to participate in regional initiative, improving the likelihood that spills are dealt with quickly, and damage contained. Globally important marine and coastal resources (coral reefs, seagrass beds, mangroves, beaches and shorelines, dugons, turtles seabirds) are protected. Regional cooperation among countries and between countries and the oil industry provides sustainable institutional and financial arrangements.</p>
.Comoros	147.9		
.Madagascar	214.5		
.Mauritius	163.7		
.Seychelles	78.5		
SUBTOTAL	604.6		
Increment			
.Comoros	147.9		
.Madagascar	214.5		
.Mauritius	163.7		
.Seychelles	78.5		
SUBTOTAL	604.6		
GEF Grant	512.6		

Table F Incremental Cost Matrix: Component E — Regional institutional strengthening

Costs US\$(000)		Domestic Benefits	Global Environment Benefits
Baseline			
.Comoros	0.0	None	None
.Madagascar	0.0		
.Mauritius	0.0		
.Seychelles	0.0		
SUBTOTAL	0.0		
Alternative			
.Comoros	n.d.	<p><i>All island countries:</i> Reduced risk of contamination of marine and coastal resources important to tourism (in some countries tourism contributes up to 20 percent of GDP and employs up to 10 percent of the workforce); and fisheries (4 percent of GDP, and substantial subsistence food resources).</p> <p>Avoidance of social upheaval that may accompany the loss of employment opportunities and food resources.</p>	<p>Creation of regional capacity improves the likelihood that spills are dealt with quickly, and damage contained. Globally important marine and coastal resources (coral reefs, seagrass beds, mangroves, beaches and shorelines, dugons, turtles seabirds) are protected. Regional cooperation among countries and between countries and the oil industry provides sustainable institutional and financial arrangements.</p>
.Madagascar	n.d.		
.Mauritius	n.d.		
.Seychelles	n.d.		
SUBTOTAL	929.6		
Increment			
.Comoros	n.d.		
.Madagascar	n.d.		
.Mauritius	n.d.		
.Seychelles	n.d.		
SUBTOTAL	0.0		
GEF Grant	929.6		

Annex 5

West Indian Ocean Islands

Oil Spill Contingency Planning Project

Procurement and Disbursement Arrangements

Procurement Arrangements

The following procurement arrangements will apply to all wholly or partly GEF/Bank financed contracts.

General. All procurement for the national components as well as for the regional component will be carried out by the IOC through the PMU. Goods wholly or partly financed by GEF/Bank would be procured in accordance with the Bank's guidelines for Procurement under IBRD Loans and IDA Credits published in January 1995 and revised in January and August 1996 and September 1997. Consultancy services wholly or partly financed by GEF/Bank would be procured in accordance with the Bank's Guidelines for Selection and Employment of Consultants by World Bank Borrowers published in January 1997 and revised in September 1997. The PMU responsible for procurement will be strengthened to ensure that staff have adequate skills and competence to implement the project. As soon as possible and no later than negotiations, a General Procurement Notice is to be prepared by IOC and transmitted to the Bank for publication in the United Nations Development Business to advertise all ICB goods and major consulting assignments expected to be financed by GEF/Bank under the project. During negotiations assurances will be obtained from IOC that the procurement arrangements will be followed during project implementation. Table A below provides information on the project elements, their estimated costs and methods of procurement including elements financed by the GEF/Bank as well as those financed by other sources.

Procurement of goods and equipment. Contracts for the supply of goods and equipment valued at \$100,000 or more will be procured under ICB. No National Competitive Bidding (NCB) is expected. Small items of equipment, goods and materials costing less than US\$ 30,000 per contract, up to an aggregate of US\$ 70,000, will be procured through international shopping, on the basis of quotations from at least three eligible suppliers.

Prior and post review by the Bank for goods and equipment contracts. All GEF/Bank financed goods contracts above the threshold of US\$100,000 per contract will be subject to prior review procedures in accordance with the Bank's Guidelines. All other contracts under these thresholds will be subject to post review.

Procurement of consulting services and training. Recruitment of consulting firms for the project, training of personnel, technical assistance and studies, will be carried out under the

Quality and Cost Based Selection method (QCSB) in accordance with the Bank's Guidelines. Exception to using the QCSB method will apply to financial audits for which the Least Cost Selection will be used (US\$150,000 in aggregate). Consulting assignments that cost less than US\$100,000 contract, for which at least three regional/national firms are capable of doing such assignments will be recruited on the basis of a short list of regional/national firms. Recruitment of individual consultants for assistance to IOC and/or PMU to carry out project implementation will be done on the basis of qualifications and experience in accordance with the Bank's Guidelines. For experts provided to the project by the partners, procurement will only involve travel and subsistence expenditures which will be processed under SOEs (see Disbursement Section).

Prior and post review by the Bank for consultancy contracts. All consultant contracts expected to cost the equivalent of US\$100,000 or more per contract with firms, all audit contracts and all contracts with individuals expected to cost the equivalent of US\$50,000 or more per contract will be subject to prior review by the Bank. With respect to each contract for the employment of consulting firms estimated to cost the equivalent of less than US\$ 200,000 and more than US\$ 100,000 and all financial management assistance and audit contracts, the procedures set forth in paragraphs 1, 2 (other than the second subparagraph of paragraph 2(a)) and 5 of Appendix 1 to the Consultant Guidelines shall apply. With respect to each contract estimated to cost the equivalent of US\$ 200,000 or more, the procedures set forth in paragraphs 1, 2 (other than the third subparagraph of paragraph 2(a)) and 5 of Appendix 1 to the Consultant Guidelines shall apply. All other contracts will be subject to post review. These procurement thresholds are summarized in Table B below.

Procurement implementation schedule and advance procurement actions. IOC will provide a detailed timetable for the implementation of the project following appraisal (by September 1998). This timetable will be used as a basis for monitoring of procurement processing. The following documents will also be prepared by IOC and transmitted to the Bank for review: (a) draft General Procurement Notice; (b) draft bidding documents for ICB goods; (c) terms of reference (TORs), short list, Letter of Invitation (LOI), draft model contract for studies, expertise and training. These documents will be agreed during negotiations, and finalized prior to Board presentation.

Reporting. It will be agreed with IOC that a monthly progress report up to grant effectiveness will be prepared in sufficient detail and transmitted to the Bank. During project implementation (after effectiveness), a semiannual report will be adequate. These details will include: major procurement actions dealt with during the previous semester and major procurement actions planned for the following semester, an update of the procurement implementation table, time taken for specific actions such as completion of essential bidding documents, bid evaluation, compliance with aggregate limits on specified methods of procurement.

Disbursement Arrangements

The total estimated disbursements, including all sources of financing over the project life are summarized in Table D below. The total funds proceeds would be disbursed over five years.

The GEF/Bank grant disbursements will cover the following percentages indicated below:

Equipment, goods, and materials: (US\$ 778.7 thousand): 25% of total expenditures excluding taxes.

Expertise and consultants' services (US\$1,587.4 thousand): 50% of total expenditures excluding taxes.

Training (US\$ 785.7 thousand): 25% of total expenditures excluding taxes.

Closing date. The closing date is June 30, 2003, six months after completion of project execution (December 31, 2002). An aggregate amount of up to US\$350,000 has been included in the project costs to refinance the project preparation grant, PPG, (PDF Block B). This is for expenditures incurred for technical expertise services and studies devoted to project preparation.

Minimum disbursements. The minimum application amount for payments directly from the grant account or for issuance of Special commitments will be US\$10,000 equivalent (to be confirmed during negotiations). Disbursements will be fully documented except that withdrawals will be made on the basis of statements of expenses (SOEs) for the items below:

- Equipment, goods and materials valued at less than US\$100,000 equivalent;
- Expertise and consultants' services and training contracts valued at less than US\$100,000 equivalent, and individual consultant contracts valued at less than US\$50,000 equivalent;
- Travel and subsistence expenditures for training, seminars, workshops and external experts provided to the project by the partners valued at less than US\$ 10,000 equivalent per individual.

Special Account. If requested by the IOC, and to facilitate disbursements against eligible expenditures for small contracts not exceeding US\$50,000 equivalent, one Special Account (SA), will be established in the name of the IOC. The SA will be opened and maintained in a commercial bank, acceptable to the Bank, with an authorized allocation of US\$200,000, corresponding to about four months of expenditures. Replenishment application will be submitted at monthly intervals and will include reconciled bank statements as well as other appropriate supporting documents.

Annex 5
West Indian Ocean Islands
Oil Spill Contingency Planning Project

Table A

Procurement Arrangements

(US\$ '000)

Procurement Method

Procurement Arrangements (US\$ '000)	International			
	Competitive			
	Bidding	Other	N.B.F.	Total
A. Equipment, goods & materials	704.4	74.3	391.4	1,170.0
	(704.4)	(74.3)	-	(778.7)
B. Expertise & consultants' services	0.0	1,587.4	625.9	2,213.4
	-	(1,587.4)	-	(1,587.4)
C. Training	0.0	785.7	230.4	1,016.1
	-	(785.7)	-	(785.7)
D. Operating costs	0.0	0.0	237.0	237.0
	-	-	-	-
	704.4	2,447.4	1,484.7	4,636.5
	(704.4)	(2,447.4)	-	(3,151.8)

Note: Figures in parenthesis are the respective amounts financed by GEF

Annex 5
West Indian Ocean Islands
Oil Spill Contingency Planning Project
Table B

Expenditure Category	Procurement Thresholds (US\$)		
	Contract Value (Threshold)	Procurement Method	Contracts Subject to Prior Review
1. Equipment, goods and materials	>= 100,000	I.C.B.	>=100,000
	<30,000	Quotation	
2. Expertise & consultants' services	Firms	Q.C.B.S./L.C.S.	>=100,000
	Individual	Individuals	>=50,000

Annex 5
West Indian Ocean Islands
Oil Spill Contingency Planning Project

Table C
Allocation of Grant Proceeds

GEF
(US\$ '000)

Expenditure Category	Suggested Allocation of Grant Proceeds	
	Grant Amount	Financing %
1. Equipment, goods and materials	707.9	100
2. Expertise & consultants' services	1,464.4	100
3. Training	730.4	100
Unallocated	249.1	100
Total	3,151.8	

Grant amounts financed by GEF

Annex 5
West Indian Ocean Islands
Oil Spill Contingency Planning Project

Table C
Allocation of Grant Proceeds

GEF
(SDR '000)
1SDR = 1.32649 US\$

Expenditure Category	Suggested Allocation of Grant Proceeds	
	Grant Amount	Financing %
1. Equipment, goods and materials	533.7	100
2. Expertise & consultants' services	1,104.0	100
3. Training	550.6	100
Unallocated	187.8	100
Total	2,376.1	

Annex 5

**West Indian Ocean Islands
Oil Spill Contingency Planning Project**

Table D

Disbursement per year

Total Project Disbursement

(in US\$ '000)

Bank FY	1999	2000	2001	2002	2003
Annual	382.3	1,013.0	969.9	1,227.4	1,043.9
Cumulative	382.3	1,395.2	2,365.1	3,592.5	4,636.5
Percentage	8%	30%	51%	77%	100%

Note: Figures may not add up to total due to rounding

GEF Disbursement

(in US\$ '000)

Bank FY	1999	2000	2001	2002	2003
Annual	131.7	564.2	699.6	971.5	784.8
Cumulative	131.7	695.9	1,395.5	2,367.0	3,151.8
Percentage	4%	22%	44%	75%	100%

Note: Figures may not add up to total due to rounding

Other contributors (in-kind) Disbursement

(in US\$ '000)

Bank FY	1999	2000	2001	2002	2003
Annual	250.6	448.8	270.3	255.9	259.1
Cumulative	250.6	699.3	969.6	1,225.5	1,484.7
Percentage	17%	47%	65%	83%	100%

Note: Figures may not add up to total due to rounding

Annex 6

West Indian Ocean Islands

Oil Spill Contingency Planning Project

Project Processing Budget and Schedule

A. Project Budget (US\$000)	Planned (At final PCD stage)	Actual
	224.8	164.8
B. Project Schedule	Planned (At final PCD stage)	Actual
Time taken to prepare the project (months)	13	18 months
First Bank mission (identification)	12/16/1996	12/16/1996
Appraisal mission departure	06/20/1998	06/23/1998
Negotiations	09/25/1998	09/25/1998
Planned Date of Effectiveness	12/21/1998	/ /19
Prepared by: Indian Ocean Commission		
Preparation assistance: PDF Block B Grant		
Bank staff who worked on the project included:		
<i>Name</i>	<i>Specialty</i>	
Abdelmoula Ghzala (AFTT1)	Engineering	
Robin Broadfield (ENVGC)	GEF Coordinator	
Philippe de Naurois (AFTT1)	Financial Analyst	
Alison Cave (AFTT2)	Environmental Specialist	
Wendy Ayres (AFTT2)	Environmental Specialist	
Adelaide Barra (AFTT2)	Team Assistant	
Carl Lundin (ENV)	Environmental Specialist	
Elizabeth Adu (LEGAF)	Legal aspects	
Paul Vandenheede (LOAAF)	Disbursement	
Bertrand Ah-Sue (AFTS2)	Procurement	

Annex 7

West Indian Ocean Islands

Oil Spill Contingency Planning Project

Documents in the Project File*

A. Staff Assessments

**Draft Project Concept Document (PCD) and Departmental Review Meeting Minutes
(6/18/97)**

Final Project Concept Document (PCD) (5/6/98)

**Draft Project Appraisal Document (PAD) and Minutes of Appraisal Decision Meeting
(06/15/98)**

B. Other

- **Identification mission BTO including aide-mémoire and implementation schedule
(12/16/96)**
- **Preparation missions BTO including aide-mémoires**
- **Appraisal mission BTO including aide-mémoire (July 1998)**
- **GEF Project Preparation Grant Agreement (GEF-PPG)**
- **Risk and Impact Assessment ("Risk and Impact of Oil Spills for the Indian Ocean
Islands")**
- **Institutional and Financial Sustainability Study**
- **Project Information Document**

***Including electronic files.**

Annex 8

West Indian Ocean Islands

Oil Spill Contingency Planning Project

Statement of Loans and Credits

Table A Comoros

<i>Project ID</i>	<i>Loan or Credit No.</i>	<i>Fiscal Year</i>	<i>Borrower</i>	<i>Purpose</i>	<i>IDA</i>	<i>Cancellations</i>	<i>Undisbursed</i>	<i>Last ARPP Supervision Ratings^a</i>	
								<i>Development Objectives</i>	<i>Implementation Progress</i>
KM-PE-596	25530	1994	GOC	Population and Human Resources	13.00	0.00	1.7	S	S
KM-PE-606	26320	1994	GOC	Small Enterprise Development	5.1	0.00	1.9	S	S
KM-PE-604	29310	1997	GOC	Agriculture Services	1.6	0.00	0.9	U	U
KM-PE-603	N0310	1997	GOC	Education III	7.0	0.00	6.9	S	S
KM-PE-44824	30110	1998	GOC	Social Fund	11.5	0.00	11.5	N/A	N/A
KM-PE-52887	30430	1998	GOC	Health	8.4	0.00	8.4	N/A	N/A
Total					46.6	0.00	31.2		

a/ Rating of 1-4: see OD 13.05. Annex D2. Preparation of Implementation Summary (Form 590). Following the FY94 Annual Review of Portfolio performance (ARPP), a letter-based system will be used (HS = highly Satisfactory, S = satisfactory, U = unsatisfactory, HU = highly unsatisfactory): see proposed improvements in Project and Portfolio Performance Rating Methodology (SecM94-901), August 23, 1994.

Table B Madagascar

<i>Project ID</i>	<i>Loan or Credit No.</i>	<i>Fiscal Year</i>	<i>Borrower</i>	<i>Purpose</i>	<i>IDA</i>	<i>Cancellations</i>	<i>Undisbursed</i>	<i>Last ARPP Supervision Ratings^a</i>	
								<i>Development Objectives</i>	<i>Implementation Progress</i>
MG-PE-1512	21170	1990	GOMr	Tana Plain Development	30.5	0.00	18.8	S	U
MG-PE-1515	20940	1990	GOMr	Education Sector Rein	39.0	0.6	0.4	S	S
MG-PE-1540	21040	1990	GOMr	Financial Sector/APEX	48.0		14.5	S	S
MG-PE-1520	22510	1991	GOMr	National Health Sector	31.0	0.00	8.3	S	S
MG-PE-1549	22430	1991	GOMr	Livestock	19.8	0.00	5.6	S	S
MG-PE-1552	23820	1992	GOMr	Vocational Education	22.8	0.00	4.9	S	S
MG-PE-1553	24740	1993	GOMr	Food Security and Nutrition	21.3	0.00	3.7	S	S
MG-PE-1550	24970	1993	GOMr	Financial Institutions	6.3	0.00	2.9	S	S
MG-PE-1558	25380	1994	GOMr	Pet Sec Reform	51.9	13.30	34.2	U	U
MG-PE-1583	25910	1994	GOMr	Urban Works Pilot	18.3	0.00	0.0	S	HS
MG-PE-1522	26440	1995	GOMr	Irrigation II	21.2	0.00	14.6	S	S
MG-PE-1563	27290	1995	GOMr	Agriculture Extension	25.2	0.00	13.4	S	S
MG-PE-35669	27780	1996	GOMr	Social Fund II	40.0	0.00	15.8	S	S
MG-PE-1533	28440	1996	GOMr	Energy Sector Development	46.0	0.00	38.2	S	S
MG-GE-1537	N0090	1997	GOMr	Environment II	30.0	0.00	23.3	S	S
MG-PE-1555		1997	GOMr	Private Sector Development, Capacity Building	23.8	0.00	21.2	N/A	N/A
MG-PE-40019	29110	1997	GOMr	Capacity Building	13.8	0.00	8.9	S	S
MG-PE-48697	29680	1997	GOMr	Urban Infrastructure	35.0	0.00	33.0	S	S
MG-PE-1559		1998	GOMr	Education Sector Dev	65.0	0.00	64.3	N/A	N/A
MG-PE-1564		1998	GOMr	Rural Water Sector Pilot	17.3	0.00	17.0	N/A	N/A
MG-PE-1568	30600	1998	GOMr	Nutrition II	27.6	0.00	27.5	N/A	N/A
Total					633.8	13.9	370.3		

a/ Rating of 1-4: see OD 13.05. Annex D2. Preparation of Implementation Summary (Form 590). Following the FY94 Annual Review of Portfolio performance (ARPP), a letter-based system will be used (HS = highly Satisfactory, S = satisfactory, U = unsatisfactory, HU = highly unsatisfactory); see proposed improvements in Project and Portfolio Performance Rating Methodology (SecM94-901), August 23, 1994.

Table C Mauritius

Project ID	Loan or Credit No.	Fiscal Year	Borrower	Purpose	IBRD	Cancellations	Undisbursed	Last ARPP Supervision Ratings ^a	
								Development Objectives	Implementation Progress
MU-PE-1906	33330	1991	GOM	Agriculture Services	10.00	6.00	1.90	U	U
MU-PE-1914	32770	1991	GOM	Environment Monitoring and Development	12.37	0.00	2.20	S	S
MU-PE-1899	34010	1992	GOM	Industry and Vocational training	5.40	1.00	1.20	U	U
MU-PE-1920	35780	1993	GOM	Education Sector	20.00	0.00	11.10	U	U
MU-PE-1918	37360	1994	GOM	Technical Assistance	7.70	0.00	4.19	S	S
MU-PE-1926	39090	1995	GOM	Port Development and Environment Protection	30.50	0.00	17.00	S	S
MU-PE-1923	38590	1995	GOM	H & T Education	16.00	0.00	13.72	U	U
MU-PE-1926	39080	1998	GOM	Environmental Sewerage and Sanitation	12.40	0.00	12.40	N/A	N/A
Total					101.97	7.00	55.76		

a/ Rating of 1-4: see OD 13.05. Annex D2. Preparation of Implementation Summary (Form 590). Following the FY94 Annual Review of Portfolio performance (ARPP), a letter-based system will be used (HS = highly Satisfactory, S = satisfactory, U = unsatisfactory, HU = highly unsatisfactory): see proposed improvements in Project and Portfolio Performance Rating Methodology (SecM94-901), August 23, 1994.

Table D Seychelles

<i>Project ID</i>	<i>Loan or Credit No.</i>	<i>Fiscal Year</i>	<i>Borrower</i>	<i>Purpose</i>	<i>IBRD</i>	<i>Cancellations</i>	<i>Undisbursed</i>	<i>Last ARPP Supervision Ratings^a</i>	
								<i>Development Objectives</i>	<i>Implementation Progress</i>
SC-PE-2383	33330	1991	GOS	Environment/Transport	4.5	0.00	2.0	S	S
Total					4.5	0.00	2.0		

a/ Rating of 1-4: see OD 13.05. Annex D2. Preparation of Implementation Summary (Form 590). Following the FY94 Annual Review of Portfolio performance (ARPP), a letter-based system will be used (HS = highly Satisfactory, S = satisfactory, U = unsatisfactory, HU = highly unsatisfactory); see proposed improvements in Project and Portfolio Performance Rating Methodology (SecM94-901), August 23, 1994.

Annex 9

West Indian Ocean Islands

Oil Spill Contingency Planning Project

Risk and Impact of Oil Spills for the Indian Ocean Islands: Report produced for the Indian Ocean Commission

Executive Summary

The World Bank is considering an application for funding for a Contingency Planning Project covering the Indian Ocean islands of Comoros, Madagascar, Mauritius and Seychelles. The underlying rationale for the project is the large volume of oil tanker traffic passing through the area, the environmental importance of the area, the high dependence of the economies of the island states on the marine and coastal resources, and the current low level of preparedness in the region.

In order to help prepare and develop the Contingency Planning Project, AEA Technology was commissioned to undertake a risk and impact assessment study. The specific objectives of this study were to evaluate the risks of exposure to oil spills arising from marine accidents that could arise from the transport of oil through the Region; to evaluate the environmental and socioeconomic consequences of the most probable types of oil spill identified in the assessment; and to identify opportunities for reducing the impact of spills through spill prevention or mitigation measures.

The “headline” characteristics of oil transportation through the Indian Ocean are well-known: almost one-third of the world’s total petroleum production and over half of the world’s sea-trade in crude oil pass through these waters. However, in practice, these data provide little insight into the actual likelihood or characteristics of oil spillages nor of their impact potential.

The vast majority of oil trade through the Indian Ocean arises from oil production in the Middle East. Although the levels of oil production are subject to annual fluctuations, the general trend over the last 10 years has been for a steady increase with a rise of over 60% in the total volume of oil exported.

In 1996, 742 million tonnes of crude oil passed near or through the Region, of which only 22 million tonnes was actually destined for delivery within the Region. Approximately 390 million tonnes was transported from the Middle East to the Asia-Pacific region, with the majority of the remaining 352 million tonnes passing along the Mozambique Channel.

Tanker routes for oil transported from the Middle East to the Far East pass close to the southern tip of India, close to the Maldives, and are generally too far north to form an important part of this study. Oil transported through the Mozambique Channel is destined for the markets of

Europe and America - large shipments of oil to Europe use this route rather than the Suez Canal because the very large crude carriers (VLCCs) i.e. >250,000 tonnes cannot pass through the Suez Canal fully laden. A third route is becoming increasingly important in the Region, namely that for tankers transporting oil from the Far East to Europe and North America - this route passes along the east coast of Madagascar.

In 1996, oil transportation through the Mozambique Channel involved 700 very large crude carriers (VLCCs) i.e. >250,000 tons and 4,000 medium-size (~60,000 tons) tankers.

The volume of oil transported along the southern route from the Far East past South Africa is still small in comparison with the other routes and accounts for less than 15 million tonnes annually.

Whilst these annual trade figures highlight the significant levels of oil transport that are occurring within the Region, an evaluation of risk requires an appreciation of many factors including vessel traffic densities for both oil-carrying and non-oil carrying vessels, vessel types, navigational hazards and weather patterns. In many cases, the incidence of previous accidents provides useful information on the potential causes and likely locations for such major incidents to occur.

Regional imports of oil amount to approximately 2 million tonnes annually, comprising approximately 360,000 tonnes of crude oil, 420,000 tonnes of fuel oil and the remainder (the majority) lighter oils such as gas-oil (marine diesel). These lighter oils are generally have low persistence in the marine environment, but in many cases can be more toxic to marine organisms than the heavier fuel oils.

Madagascar imports 300-400,000 tonnes of crude oil annually for the refinery at Toamasina (Tamatave), although production difficulties at the refinery have resulted in recent fluctuations in that value. No other countries in the Region import crude oil. Relatively significant quantities of fuel oil are imported into the Region, being transported from the Arabian Gulf, South Africa or as exports from Madagascar.

Information has been collated from the principal oil importers into each of the countries to determine the frequency, typical cargo size and routes for tankers transporting oil into and around the Region. Tanker sizes for fuel oil range from 4,000 to 40,000 tonnes and for gas-oil 13,000 to 40,000 tonnes. In total these tankers make approximately 200 visits annually to ports in Madagascar, Mauritius and Seychelles. This local tanker traffic indicates the potential for Tier 1 spills, for example due to minor accidents during fuel transfer operations, and also Tier II spills, for example as a result of collisions or grounding incidents.

Information was collected on both the causes of oil spills world-wide and on previous accidents within the Region. These data were obtained from a variety of sources, including ITOPF records, Oil Spill Intelligence Reports and during local consultations. There have been at least 5 major spills involving significant (20,000 - 90,000 tonnes) of crude oil along the Mozambique Channel route. Whilst these previous accidents have been along the western side of the channel

or on approach to South Africa, they indicate the potential for serious spillages in this area. Information was also collected on approximately 50 local incidents that led to oil spillages of a few tonnes of fuel oil or marine diesel. The most serious local incident was in Seychelles in 1970, when a Royal Navy vessel *Ennerdale* struck an uncharted reef causing a spill of over 40,000 tonnes of refined furnace oil.

Examination of the accident data indicates two significant regional hazards. Firstly, seasonal cyclonic winds — these typically cause 4 to 5 incidents each year along the coast of Madagascar. Second, grounding incidents on reefs.

An assessment of the risk of serious tanker accidents in the Mozambique Channel has been made using two approaches - one based on a 10-year analysis of world-wide tanker accidents and the other based on casualty estimates derived from Canadian marine traffic data. The consequent estimates of the risk of accidents were combined with data on the risk of oil spills in the event of an accident. The analysis indicates that the likelihood of oil spills in the Mozambique Channel is 0.075-0.3/year for all spills and 0.015-0.06/year for spills greater than 100 tonnes. The information collated on previous spills indicates that at least 5 serious spills have occurred in the last 30 years i.e. 0.16 large spills per year. The data on recorded incidents confirm that the overall level of accidents in the Mozambique Channel is typical of similar world-wide accident rates.

To evaluate the risk of collisions, a database of one years data for all vessel movements along the East Africa coast and to the islands of the Region was purchased from Lloyds Maritime Services. The database contained information on over 17,000 individual vessel movements and was analyzed to identify the most congested areas with the potential for accidental collisions. The data show that the highest number of vessel movements (with consequent implications for congestion on shipping lanes and hence collisions) is at Mombassa (1339 per year), followed by Dar Es Salaam (985 per year), Mauritius (890 per year). Only 61 vessel movements were recorded for Comoros, of which 42 were actually at Mayotte, leaving just 19 at Grand Comore.

The risk of a range of other incidents such as grounding, pipeline leakage or bunkering incidents has also been considered.

On the basis of the risk assessment and the perception of key risks identified by key local organisations during the local consultation meetings, a number of oil spill scenarios were identified for further detailed analysis using the OSIS oil spill model. These scenarios were selected to include both the relatively high frequency events and low frequency/high consequence events.

Madagascar - Nosy Be Moderate spill caused by vessel grounding on approach to harbour.
January. 500 tonnes heavy fuel oil
Madagascar - Nosy Be Moderate spill caused by vessel grounding on approach to harbour.
October. 500 tonnes heavy fuel oil
Madagascar - Toliara Moderate spill caused by vessel grounding on approach to harbour.
500 tonnes of heavy fuel oil

Madagascar - Toamasina	Major spill caused by vessel collision outside Toamasina. 20,000 tonnes Iranian Light crude
Mauritius - Port Louis	Moderate spill caused by vessel collision on approach to harbour. 500 tonnes of heavy fuel oil
Mauritius - Grande Baie	Moderate spill caused by vessel grounding after engine failure. 500 tonnes of heavy fuel oil
Mauritius - Grande Baie	Minor spill caused by fishing boat sinking. 2 tonnes diesel
Seychelles - Mahe	Major spill following grounding of fuel oil tanker on approach to St. Anne. January. 500 tonnes heavy fuel oil
Seychelles - Mahe	Major spill following grounding of fuel oil tanker on approach to St. Anne. July. 500 tonnes heavy fuel oil
Seychelles - Mahe	Minor spill of fuel oil during loading/unloading operations at St. Anne storage facility. 2 tonnes heavy fuel oil
Seychelles - Mahe	Major spill of non-persistent oil following accident near fuel storage tanks at St. Anne. 500 tonnes marine diesel
Regional scenarios	Major spill of 50,000 tonnes crude oil following grounding or collision event in main shipping lanes. Nine scenarios at a variety of locations and in different seasons to indicate principal areas at risk.

The oil spill calculations have provided information on the probability that the oil travels in a particular direction (based on seasonal meteorological data) on the volume and viscosity of oil beached on the shoreline, on the time to beaching, on the area potentially impacted by surface oil slicks, on the volume of oil remaining in the surface slick and the volume of oil dispersed in the water column.

The results of each scenario are presented in detail in the main report, but the following general characteristics may be observed:

- the impact potential of oil spills around Seychelles, Comoros and north-western Madagascar exhibits marked seasonal variations - due to the seasonal variations in monsoon winds;
 - for many beaching events, the available response time will be very short - a few hours;
 - for many beaching events, the volume of oil beached will be relatively high since the short time at sea precludes natural dispersion;
 - fuel oil used in the Region (both IFO160 for Seychelles and IFO360 for Mauritius) show a high degree of persistence and surface slicks may be found at some considerable distance from the release point, albeit at small volumes;
- Seychelles: north east monsoon winds are generally light and variable, coupled with an easterly surface current. Oil slicks would tend to move east or south-east over the Mahe bank. South-west monsoon winds are generally more constant and higher speed, oil slicks would tend to move north and north-east, away from Mahe but towards Praslin and other smaller islands.
- Mauritius: winds influenced by Trade Winds rather than seasonal monsoon winds, prevailing easterly wind, weak westerly surface currents. Oil spills would tend to move west away from Mauritius, but small volumes of highly weathered oil could impact on Reunion;
 - Madagascar (East coast): predominantly easterly winds, very strong southerly surface currents. Slicks would beach to the south of the release point very rapidly;

- Madagascar (north west coast): winter north westerly winds, summer stronger south easterly winds, weak northerly currents. Impact potential highly seasonal, more beaching in winter months, less in summer;
- southern tanker route (Singapore to Cape Town): calculations demonstrate the potential for these major spills to impact on Mauritius, Reunion and southern Madagascar;
- western tanker route (Aden to Cape Town): spills occurring on the western side of the Mozambique Channel would tend to move towards the coast of East Africa rather than affecting the Indian Ocean Islands;
- western tanker route (Aden to Cape Town): spills occurring near Comoros have potential to cause major beaching of oil on Comoros;
- western tanker route (Aden to Cape Town): the route passes to the west of Aldabra atoll, spills occurring near Aldabra tend to be transported further west under the action of surface winds and currents;

The impact potential of oil spills in the Indian Ocean is immense, including environmental features such as coral reefs, seagrass beds, mangroves, beaches and shorelines, dugongs, turtles, seabirds; and economic factors such as industrial fishing, artisanal fishing, fish farms, amenity beaches, diving & deep-sea fishing, disruption to ports, seawater intakes to aquaria or industrial plant and salt production. A brief description of the potential effects is provided.

In order to evaluate the potential impact of the most likely oil spill calculations, profiles of the environmental and socioeconomic sensitivities of each of the island states has been developed. This was based initially, on a review of existing environmental data undertaken by the World Conservation Monitoring Centre and supplemented by additional data obtained during the regional visit. The principal economic data relating to fishing, tourism and other marine or coastal resources has also been examined.

The general level of knowledge of environmental sensitivities is good, with many relevant previous and on-going projects funded under the auspices of the IOC, World Bank, EU and UN. However, only in Seychelles and Mauritius has substantial progress been made towards collating that information into a format that would be of use during oil spill response operations. This information is critical to effective response, since different response techniques would be employed in different locations depending on the local sensitivities. Moreover, it is essential to the effective prioritisation of clean-up or protection strategies. This information is required not only for locally based response during small spills (Tier 1I) but also to permit effective action by internationally based response teams during major (Tier 1II) situations.

The economic dependencies on marine and coastal resources are readily apparent:

- In Seychelles, tourism accounts for 20% of GDP and generates 70% of the countries total foreign exchange earnings. The tourism industry is based entirely around coastal resources with particular vulnerability to the consequences of an oil spill. Approximately 3,000 people were employed in the tourism industry in 1995. An almost identical number of people are employed in the fishing industry — approximately half as artisanal fishermen and the remainder in industrial fishing or tuna canning. Fisheries accounts for 4% of GDP and 85% of total domestic exports.

- Recent attempts to reduce the dependence of Mauritius on the sugar industry have been successful, and tourism is now the 4th most important contributor to the economy. Gross earnings from tourism in 1996 were US\$233 million and approximately 50,000 people were employed directly and indirectly in the tourist industry i.e. 10% of the total workforce. Fisheries contributes approximately US\$15million to the economy and employs almost 6,000 people.
- In Comoros, locally caught fish make a major contribution to the subsistence economy, providing income and a valuable food-source. As Comoros is not self-sufficient in foodstuffs, this locally occurring resource is particularly valuable. Tourism presently contributes only 3% of the GDP, but efforts are being made to increase the income from tourism substantially in the future.

The potential environmental and socioeconomic impacts of the most likely oil spill scenarios have been examined. In almost every case the spill has the potential to have a severe deleterious impact on some important local feature. For example, in the case of the oil spills considered near Grande Baie in Mauritius, there is a possibility of oil impacting on the principal tourist areas in Mauritius, with high consequential economic impacts. Under different meteorological conditions, the spill would move towards the internationally important seabird breeding sites, at Ile Round and Ile aux Serpents with high consequential environmental impacts. Under a third set of meteorological conditions, the principal impact would be related to the effect of dispersed oil concentrations on artisanal fisheries, constituting high environmental, economic and social impacts.

The OSIS oil spill model has also been used to identify those sites where oil spillages could affect the Aldabra World Heritage Site. Initially, OSIS was used to examine the persistence of spills of a range of sizes and this information was used to determine the effective transit time for a spill impacting on the atoll. OSIS was then used to provide back-tracks under a range of meteorological conditions to identify potential spill locations. These studies have allowed diagrams to be drawn showing the probability that a spill could impact on Aldabra and hence to identify the high risk areas that may require additional protection. The analysis shows that the areas of highest risk lie to the south east of Aldabra - along a line stretching from Aldabra towards the northern tip of Madagascar.

Vessel routing charts indicate that the main tanker lanes would not cross the high risk area and that, consequently, the potential for major spills in this area is low. The more likely spill scenarios in this area relate to tankers carrying crude oil to Toamasina.

The OSIS oil spill model also simulates the impact of mechanical recovery of oil and the application of dispersants. OSIS has been used to examine the change in environmental and socioeconomic impact if Tier 1 counter-measures had been in place in each of the major ports. Analysis of these scenarios is still underway.

Annex 10

West Indian Ocean Islands

GEF Indian Ocean Oil Spill Contingency Planning Project

Countries at a Glance

Comoros at a glance

10/1/98

POVERTY and SOCIAL

1997

	Comoros	Sub-Saharan Africa	Low-income
Population, mid-year (millions)	0.52	614	2,048
GNP per capita (Atlas method, US\$)	400	500	350
GNP (Atlas method, US\$ billions)	0.21	309	722

Average annual growth, 1991-97

	Comoros	Sub-Saharan Africa	Low-income
Population (%)	2.6	2.7	2.1
Labor force (%)	2.4	2.6	2.3

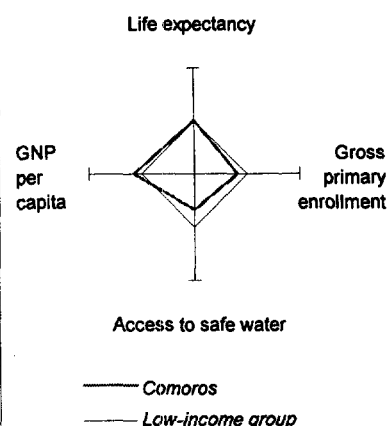
Most recent estimate (latest year available, 1991-97)

Poverty (% of population below national poverty line)	..	..	..
Urban population (% of total population)	32	32	28
Life expectancy at birth (years)	60	52	59
Infant mortality (per 1,000 live births)	65	90	78
Child malnutrition (% of children under 5)	..	..	61
Access to safe water (% of population)	48	44	71
Illiteracy (% of population age 15+)	43	43	47
Gross primary enrollment (% of school-age population)	74	75	91
Male	..	82	100
Female	..	67	81

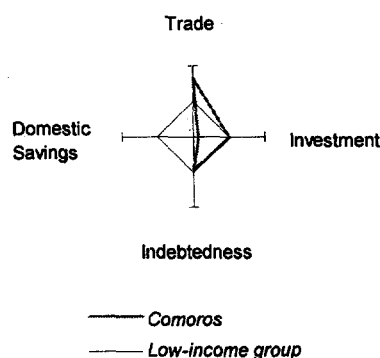
KEY ECONOMIC RATIOS and LONG-TERM TRENDS

	1976	1986	1996	1997	
GDP (US\$ billions)	..	0.16	0.21	0.19	
Gross domestic investment/GDP	..	23.6	18.9	22.7	
Exports of goods and services/GDP	..	16.4	19.8	22.0	
Gross domestic savings/GDP	..	-1.5	-6.1	-2.6	
Gross national savings/GDP	..	15.8	13.6	13.4	
Current account balance/GDP	..	-9.7	-9.0	-14.8	
Interest payments/GDP	..	0.5	0.3	1.1	
Total debt/GDP	..	102.5	96.1	128.5	
Total debt service/exports	..	6.6	2.3	..	
Present value of debt/GDP	..	..	56.3	..
Present value of debt/exports	..	..	195.3	..
	1976-86	1987-97	1996	1997	1998-02
(average annual growth)					
GDP	4.1	0.1	-0.4	0.0	3.3
GNP per capita	1.2	-2.5	-3.2	-2.9	..
Exports of goods and services	15.3	8.6	4.6	3.5	4.2

Development diamond*



Economic ratios*



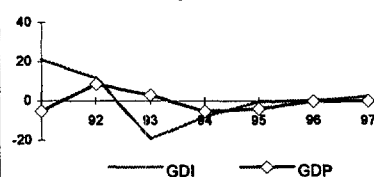
STRUCTURE of the ECONOMY

	1976	1986	1996	1997
(% of GDP)				
Agriculture	..	37.4	38.7	38.7
Industry	..	12.9	12.8	12.8
Manufacturing	..	3.7	5.3	5.3
Services	..	49.6	48.5	48.5
Private consumption	..	73.8	90.9	89.1
General government consumption	..	27.6	15.2	13.5
Imports of goods and services	..	41.5	44.7	47.3

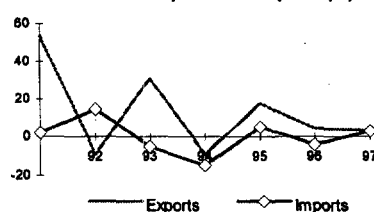
(average annual growth)

	1976-86	1987-97	1996	1997
Agriculture	4.2	0.6	-0.1	0.5
Industry	3.2	3.5	-0.6	-0.2
Manufacturing	4.8	1.4	-0.2	-0.1
Services	4.2	-1.1	-0.7	-0.4
Private consumption	3.3	-0.4	-2.1	0.3
General government consumption	3.1	-7.5	-11.4	-4.8
Gross domestic investment	0.6	-1.1	0.1	2.5
Imports of goods and services	2.4	-1.0	-4.0	3.0
Gross national product	3.8	0.1	-0.7	-0.4

Growth rates of output and investment (%)



Growth rates of exports and imports (%)

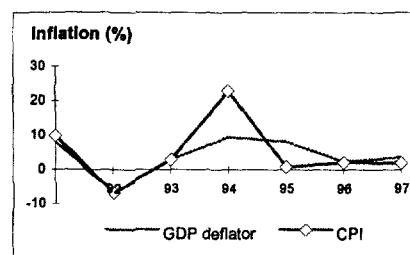


Note: 1997 data are preliminary estimates.

* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

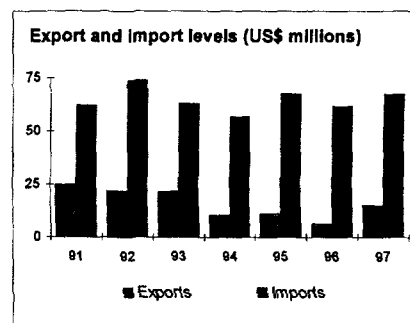
PRICES and GOVERNMENT FINANCE

	1976	1986	1996	1997
Domestic prices				
(% change)				
Consumer prices	..	7.4	2.1	1.9
Implicit GDP deflator	..	7.4	2.3	3.5
Government finance				
(% of GDP, includes current grants)				
Current revenue	..	33.3	20.8	20.8
Current budget balance	..	15.7	-1.4	-0.3
Overall surplus/deficit	..	-11.7	-7.7	-6.8



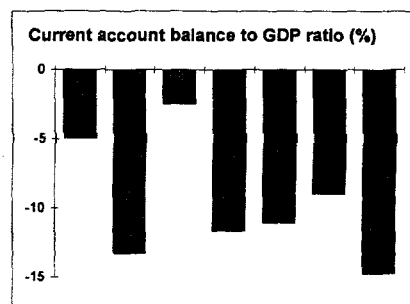
TRADE

	1976	1986	1996	1997
(US\$ millions)				
Total exports (fob)	..	20	6	15
Other food	..	16	3	5
Other food	..	2	1	0
Manufactures
Total imports (cif)	..	39	62	68
Food	..	7	12	20
Fuel and energy	..	5	4	8
Capital goods	13
Export price index (1995=100)	..	162	66	68
Import price index (1995=100)	..	94	136	131
Terms of trade (1995=100)	..	173	48	52



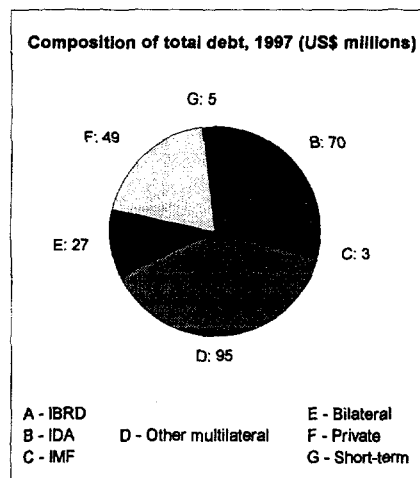
BALANCE of PAYMENTS

	1976	1986	1996	1997
(US\$ millions)				
Exports of goods and services	..	27	42	44
Imports of goods and services	..	71	95	93
Resource balance	..	-44	-53	-50
Net income	..	-2	0	-1
Net current transfers	..	30	34	22
Current account balance	..	-16	-19	-29
Financing items (net)	..	19	29	30
Changes in net reserves	..	-3	-9	-1
Memo:				
Reserves including gold (US\$ millions)	..	18	53	35
Conversion rate (DEC, local/US\$)	239.0	346.3	383.7	437.8



EXTERNAL DEBT and RESOURCE FLOWS

	1976	1986	1996	1997
(US\$ millions)				
Total debt outstanding and disbursed	19	167	205	249
IBRD	0	0	0	0
IDA	0	26	68	70
Total debt service	1	2	1	..
IBRD	0	0	0	0
IDA	0	0	1	1
Composition of net resource flows				
Official grants	11	16	15	..
Official creditors	14	23	6	..
Private creditors	0	0	0	..
Foreign direct investment	0	0	2	..
Portfolio equity	0	0	0	..
World Bank program				
Commitments	0	0	0	20
Disbursements	0	5	6	5
Principal repayments	0	0	0	0
Net flows	0	5	6	5
Interest payments	0	0	0	0
Net transfers	0	5	6	4



Madagascar at a glance

10/1/98

POVERTY and SOCIAL

1997

	Madagascar	Sub-Saharan Africa	Low-income
Population, mid-year (millions)	14.1	614	2,048
GNP per capita (Atlas method, US\$)	250	500	350
GNP (Atlas method, US\$ billions)	3.5	309	722

Average annual growth, 1991-97

	Madagascar	Sub-Saharan Africa	Low-income
Population (%)	2.8	2.7	2.1
Labor force (%)	2.8	2.6	2.3

Most recent estimate (latest year available, 1991-97)

Poverty (% of population below national poverty line)	75	..	..
Urban population (% of total population)	28	32	28
Life expectancy at birth (years)	58	52	59
Infant mortality (per 1,000 live births)	86	90	78
Child malnutrition (% of children under 5)	32	..	61
Access to safe water (% of population)	29	44	71
Illiteracy (% of population age 15+)	54	43	47
Gross primary enrollment (% of school-age population)	72	75	91
Male	73	82	100
Female	70	67	81

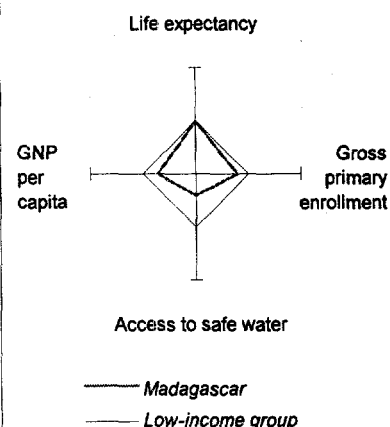
KEY ECONOMIC RATIOS and LONG-TERM TRENDS

	1976	1986	1996	1997
GDP (US\$ billions)	2.2	3.3	4.0	3.6
Gross domestic investment/GDP	8.1	9.0	11.1	12.1
Exports of goods and services/GDP	15.2	12.1	20.5	22.4
Gross domestic savings/GDP	5.8	6.1	5.8	4.3
Gross national savings/GDP	5.8	6.1	4.9	6.8
Current account balance/GDP	-3.1	-3.0	-6.2	-5.3
Interest payments/GDP	0.2	1.5	1.5	1.4
Total debt/GDP	9.2	92.1	112.3	121.3
Total debt service/exports	3.8	47.6	27.8	24.4
Present value of debt/GDP	..	..	79.6	..
Present value of debt/exports	..	..	347.8	..

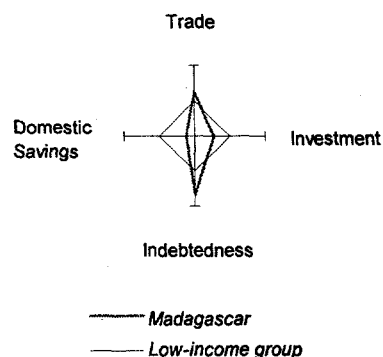
(average annual growth)

	1976-86	1987-97	1996	1997	1998-02
GDP	-0.1	0.9	2.1	3.7	5.5
GNP per capita	-3.4	-1.4	0.2	1.6	2.4
Exports of goods and services	-4.4	5.5	3.9	-1.5	6.7

Development diamond*



Economic ratios*



STRUCTURE of the ECONOMY

(% of GDP)	1976	1986	1996	1997
Agriculture	33.3	36.8	31.7	31.7
Industry	16.1	12.9	13.5	13.4
Manufacturing	..	10.6	11.5	11.1
Services	50.6	50.3	54.8	54.9
Private consumption	83.0	85.0	87.8	88.4
General government consumption	11.2	8.8	6.3	7.2
Imports of goods and services	17.5	15.0	25.8	30.2

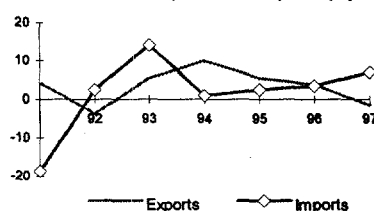
(average annual growth)

	1976-86	1987-97	1996	1997
Agriculture	1.5	1.9	2.5	2.4
Industry	-2.3	0.7	2.0	3.5
Manufacturing	..	0.1	1.2	0.9
Services	-0.6	1.1	2.0	4.5
Private consumption	-0.5	1.1	1.4	4.7
General government consumption	2.1	-1.6	-2.1	8.0
Gross domestic investment	-1.7	-0.7	9.5	7.7
Imports of goods and services	-4.2	3.0	3.4	7.0
Gross national product	-0.7	1.4	3.3	4.7

Growth rates of output and investment (%)



Growth rates of exports and imports (%)

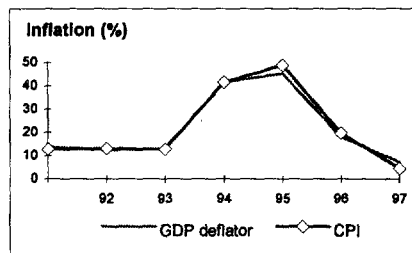


Note: 1997 data are preliminary estimates.

* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

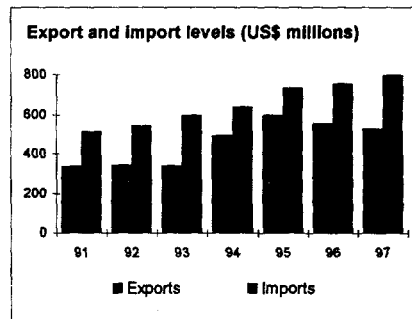
PRICES and GOVERNMENT FINANCE

	1976	1986	1996	1997
Domestic prices				
(% change)				
Consumer prices	8.3	12.4	19.8	4.5
Implicit GDP deflator	9.9	14.2	18.1	7.3
Government finance				
(% of GDP, includes current grants)				
Current revenue	..	12.7	9.4	11.7
Current budget balance	..	1.9	-1.1	0.7
Overall surplus/deficit	..	-3.5	-8.4	-5.7



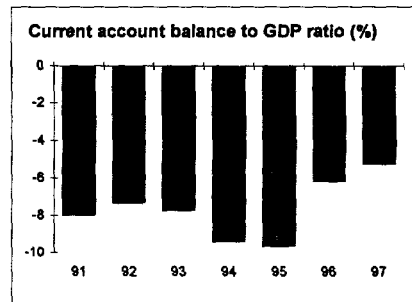
TRADE

	1976	1986	1996	1997
(US\$ millions)				
Total exports (fob)	..	326	555	531
Coffee	..	139	62	37
Other food	..	48	20	15
Manufactures	..	57	348	366
Total imports (cif)	..	356	758	799
Food	..	52	60	54
Fuel and energy	..	58	106	105
Capital goods	..	94	164	152
Export price index (1995=100)	..	97	86	82
Import price index (1995=100)	..	68	100	92
Terms of trade (1995=100)	..	143	85	88



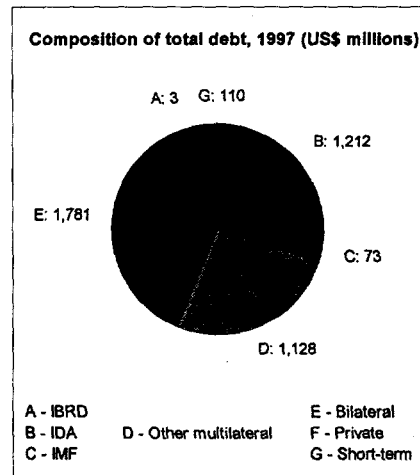
BALANCE of PAYMENTS

	1976	1986	1996	1997
(US\$ millions)				
Exports of goods and services	330	396	821	795
Imports of goods and services	393	490	1,033	1,071
Resource balance	-63	-95	-212	-276
Net income	-17	-155	-158	-108
Net current transfers	13	152	121	196
Current account balance	-68	-97	-249	-188
Financing items (net)	79	163	384	243
Changes in net reserves	-12	-66	-135	-55
Memo:				
Reserves including gold (US\$ millions)	0	41	241	295
Conversion rate (DEC, local/US\$)	239.0	676.3	4,054.6	5,093.4



EXTERNAL DEBT and RESOURCE FLOWS

	1976	1986	1996	1997
(US\$ millions)				
Total debt outstanding and disbursed	201	3,003	4,498	4,307
IBRD	26	31	7	3
IDA	68	422	1,147	1,212
Total debt service	13	211	255	224
IBRD	2	4	5	4
IDA	1	5	17	18
Composition of net resource flows				
Official grants	22	68	117	178
Official creditors	18	149	-5	110
Private creditors	1	-47	-5	-1
Foreign direct investment	1	14	10	14
Portfolio equity	0	0	0	0
World Bank program				
Commitments	36	103	60	177
Disbursements	16	95	78	130
Principal repayments	0	3	13	14
Net flows	16	92	65	116
Interest payments	2	6	9	9
Net transfers	14	87	55	107



Mauritius at a glance

10/1/98

POVERTY and SOCIAL

1997

	Mauritius	Sub-Saharan Africa	Upper-middle-income
Population, mid-year (millions)	1.1	614	571
GNP per capita (Atlas method, US\$)	3,800	500	4,520
GNP (Atlas method, US\$ billions)	4.4	309	2,584

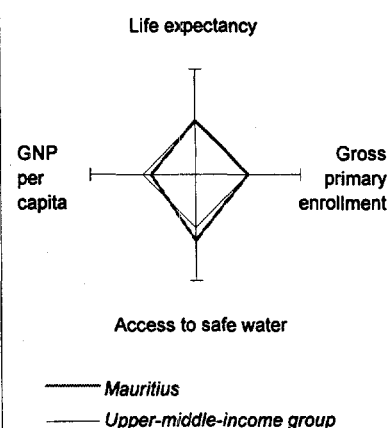
Average annual growth, 1991-97

	Mauritius	Sub-Saharan Africa	Upper-middle-income
Population (%)	1.2	2.7	1.5
Labor force (%)	1.7	2.6	1.9

Most recent estimate (latest year available, 1991-97)

Poverty (% of population below national poverty line)	11	..	..
Urban population (% of total population)	41	32	73
Life expectancy at birth (years)	72	52	70
Infant mortality (per 1,000 live births)	15	90	30
Child malnutrition (% of children under 5)	15	..	..
Access to safe water (% of population)	98	44	79
Illiteracy (% of population age 15+)	17	43	15
Gross primary enrollment (% of school-age population)	107	75	107
Male	107	82	..
Female	106	67	..

Development diamond*

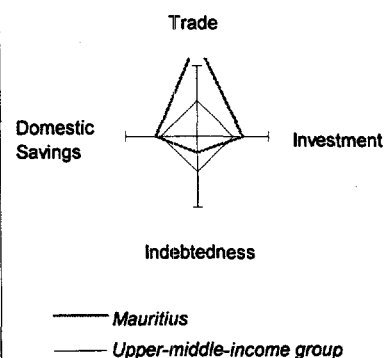


KEY ECONOMIC RATIOS and LONG-TERM TRENDS

	1976	1986	1996	1997
GDP (US\$ billions)	0.70	1.5	4.3	4.2
Gross domestic investment/GDP	30.8	21.9	25.1	27.6
Exports of goods and services/GDP	50.8	60.5	63.9	62.0
Gross domestic savings/GDP	23.9	28.6	23.9	24.1
Gross national savings/GDP	25.5	28.6	25.5	25.6
Current account balance/GDP	-5.1	6.7	0.9	-1.1
Interest payments/GDP	0.4	2.0	1.6	2.1
Total debt/GDP	9.2	45.8	45.0	47.5
Total debt service/exports	2.2	14.2	6.7	8.0
Present value of debt/GDP	..	..	40.8	..
Present value of debt/exports	..	..	59.1	..

	1976-86	1987-97	1996	1997	1998-02
(average annual growth)					
GDP	2.7	5.3	5.4	5.0	5.3
GNP per capita	0.8	4.3	3.9	4.1	..
Exports of goods and services	4.4	5.9	10.0	4.3	2.8

Economic ratios*

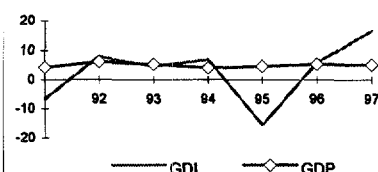


STRUCTURE of the ECONOMY

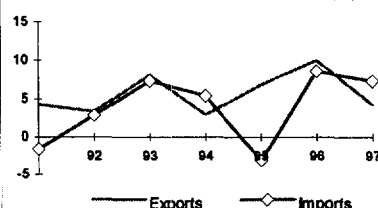
	1976	1986	1996	1997
(% of GDP)				
Agriculture	22.5	15.3	9.6	8.9
Industry	25.0	31.6	33.0	33.0
Manufacturing	15.2	23.3	24.2	24.7
Services	52.5	53.2	57.4	58.1
Private consumption	62.6	60.9	63.9	64.0
General government consumption	13.5	10.5	12.2	11.9
Imports of goods and services	57.7	53.8	65.2	65.5

	1976-86	1987-97	1996	1997
(average annual growth)				
Agriculture	-0.1	0.2	4.1	3.8
Industry	4.4	6.1	6.0	4.8
Manufacturing	5.9	5.7	6.2	5.6
Services	3.0	6.3	5.9	5.3
Private consumption	1.4	5.0	4.0	3.9
General government consumption	2.0	4.4	4.8	3.0
Gross domestic investment	-1.9	3.5	5.7	16.5
Imports of goods and services	-0.3	4.7	8.6	7.3
Gross national product	2.2	5.4	5.0	5.2

Growth rates of output and investment (%)



Growth rates of exports and imports (%)

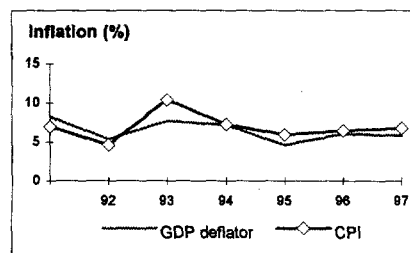


Note: 1997 data are preliminary estimates.

* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

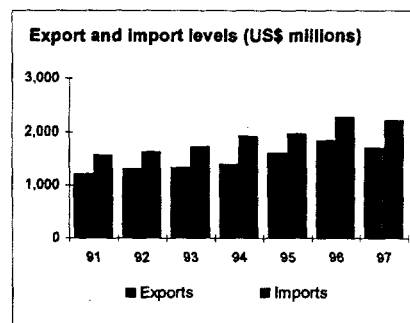
PRICES and GOVERNMENT FINANCE

	1976	1986	1996	1997
Domestic prices				
(% change)				
Consumer prices	13.0	1.7	6.5	6.9
Implicit GDP deflator	-5.1	8.0	6.1	5.9
Government finance				
(% of GDP, includes current grants)				
Current revenue	..	22.4	18.8	20.1
Current budget balance	..	1.6	-1.8	-1.0
Overall surplus/deficit	..	-3.4	-6.9	-5.2



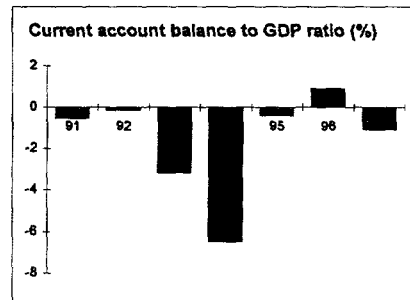
TRADE

	1976	1986	1996	1997
(US\$ millions)				
Total exports (fob)	..	673	1,841	1,701
Sugar	..	264	447	426
Textiles	7	6
Manufactures	..	296	983	964
Total imports (cif)	..	683	2,278	2,224
Food	..	88	368	375
Fuel and energy	..	52	179	172
Capital goods	..	118	520	508
Export price index (1995=100)	..	81	107	98
Import price index (1995=100)	..	55	109	101
Terms of trade (1995=100)	..	148	98	97



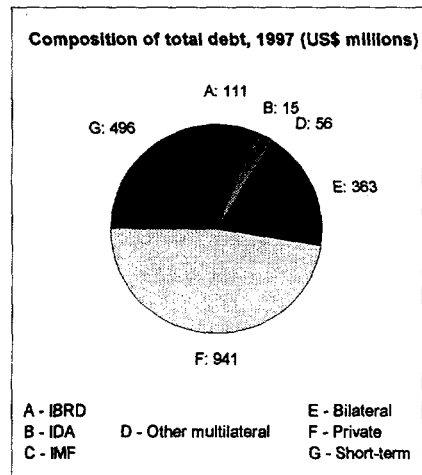
BALANCE of PAYMENTS

	1976	1986	1996	1997
(US\$ millions)				
Exports of goods and services	357	885	2,749	2,586
Imports of goods and services	406	788	2,803	2,732
Resource balance	-48	97	-54	-146
Net income	6	-49	-28	-19
Net current transfers	..	49	121	118
Current account balance	-36	98	38	-47
Financing items (net)	-39	-77	9	90
Changes in net reserves	75	-21	-48	-43
Memo:				
Reserves including gold (US\$ millions)	..	151	919	726
Conversion rate (DEC, local/US\$)	6.7	13.5	17.9	20.6



EXTERNAL DEBT and RESOURCE FLOWS

	1976	1986	1996	1997
(US\$ millions)				
Total debt outstanding and disbursed	65	671	1,936	1,982
IBRD	10	148	124	111
IDA	11	20	16	15
Total debt service	8	131	198	223
IBRD	1	19	30	29
IDA	0	0	1	1
Composition of net resource flows				
Official grants	7	25	13	20
Official creditors	9	15	-9	6
Private creditors	-2	-5	40	-31
Foreign direct investment	3	8	37	53
Portfolio equity	0	0	34	0
World Bank program				
Commitments	4	30	7	0
Disbursements	5	11	14	17
Principal repayments	1	8	21	21
Net flows	5	4	-7	-4
Interest payments	1	12	9	8
Net transfers	4	-8	-17	-12



Seychelles at a glance

10/1/98

POVERTY and SOCIAL

1997

	Seychelles	Sub-Saharan Africa	Upper-middle-income
Population, mid-year (millions)	0.08	614	571
GNP per capita (Atlas method, US\$)	6,880	500	4,520
GNP (Atlas method, US\$ billions)	0.54	309	2,584

Average annual growth, 1991-97

Population (%)	1.6	2.7	1.5
Labor force (%)	..	2.6	1.9

Most recent estimate (latest year available, 1991-97)

Poverty (% of population below national poverty line)	..	..	..
Urban population (% of total population)	56	32	73
Life expectancy at birth (years)	71	52	70
Infant mortality (per 1,000 live births)	17	90	30
Child malnutrition (% of children under 5)	6	..	..
Access to safe water (% of population)	97	44	79
Illiteracy (% of population age 15+)	21	43	15
Gross primary enrollment (% of school-age population)	96	75	107
Male	..	82	..
Female	..	67	..

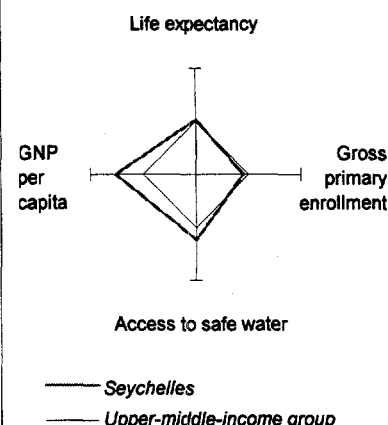
KEY ECONOMIC RATIOS and LONG-TERM TRENDS

	1976	1986	1996	1997
GDP (US\$ billions)	..	0.21	0.51	0.54
Gross domestic investment/GDP	..	22.8	50.9	36.0
Exports of goods and services/GDP	..	63.0	62.4	67.7
Gross domestic savings/GDP	..	29.9	39.6	22.3
Gross national savings/GDP	..	33.5	40.1	23.3
Current account balance/GDP	..	20.1	-10.8	-12.7
Interest payments/GDP	..	1.8	0.9	0.9
Total debt/GDP	..	71.0	29.1	25.8
Total debt service/exports	..	7.6	4.7	3.1
Present value of debt/GDP	23.9	..
Present value of debt/exports	37.6	..

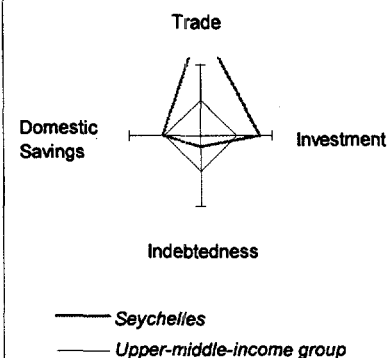
(average annual growth)

	1976-86	1987-97	1996	1997	1998-02
GDP	0.7	4.5	4.7	4.3	3.2
GNP per capita	0.3	3.5	3.7	3.3	1.4
Exports of goods and services	..	4.9	25.5	8.0	3.7

Development diamond*



Economic ratios*



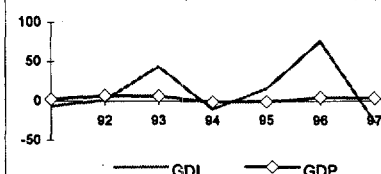
STRUCTURE of the ECONOMY

	1976	1986	1996	1997
(% of GDP)				
Agriculture	..	6.0	4.1	4.1
Industry	..	17.9	23.1	23.3
Manufacturing	..	9.3	12.8	13.1
Services	..	76.1	72.8	72.6
Private consumption	..	31.3	31.3	49.8
General government consumption	..	38.8	29.1	27.9
Imports of goods and services	..	55.9	73.8	81.4

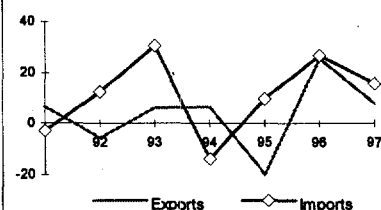
(average annual growth)

	1976-86	1987-97	1996	1997
Agriculture	-2.2	-1.6	1.0	0.6
Industry	3.3	9.9	9.8	20.9
Manufacturing	2.6	8.6	13.8	28.4
Services	0.4	3.5	3.3	-1.0
Private consumption	..	13.5	-14.0	48.4
General government consumption	..	3.0	2.0	1.3
Gross domestic investment	..	10.1	75.8	-26.4
Imports of goods and services	..	11.9	26.6	15.6
Gross national product	1.1	5.0	5.6	5.2

Growth rates of output and investment (%)



Growth rates of exports and imports (%)

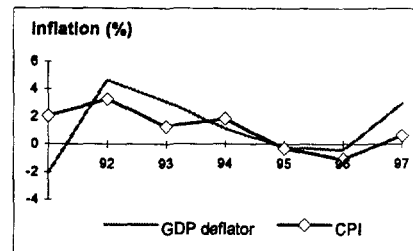


Note: 1997 data are preliminary estimates.

* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

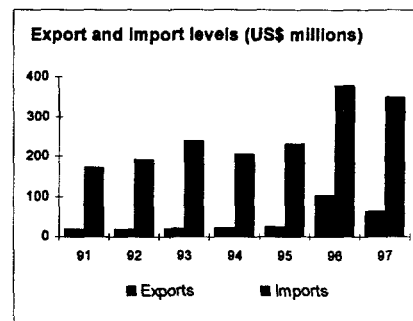
PRICES and GOVERNMENT FINANCE

	1976	1986	1996	1997
Domestic prices				
(% change)				
Consumer prices	14.9	0.2	-1.1	0.6
Implicit GDP deflator	..	5.8	-0.4	2.9
Government finance				
(% of GDP, includes current grants)				
Current revenue	..	44.0	38.8	41.5
Current budget balance	..	1.6	-7.6	-5.7
Overall surplus/deficit	..	-15.0	-12.0	-13.1



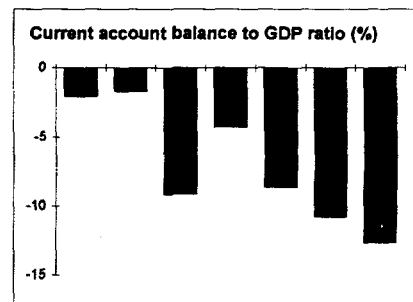
TRADE

	1976	1986	1996	1997
(US\$ millions)				
Total exports (fob)	..	5	105	65
Copra	..	1	3	4
Fish	..	1	0	0
Manufactures	..	..	34	57
Total imports (cif)	..	105	379	350
Food	..	20	63	88
Fuel and energy	..	18	43	50
Capital goods	..	29	166	75
Export price index (1995=100)	60	13	99	101
Import price index (1995=100)	120	103	96	98
Terms of trade (1995=100)	50	13	103	103



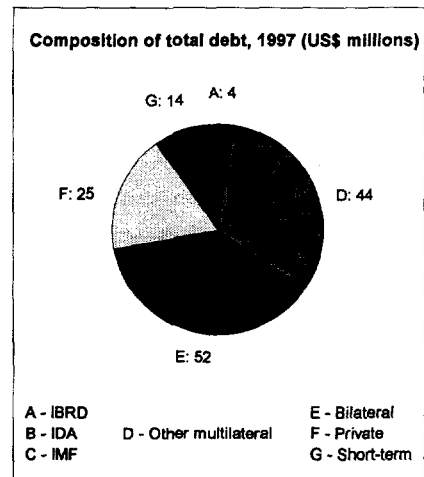
BALANCE of PAYMENTS

	1976	1986	1996	1997
(US\$ millions)				
Exports of goods and services	..	131	317	365
Imports of goods and services	..	116	375	439
Resource balance	..	15	-58	-74
Net income	..	-9	-13	-9
Net current transfers	..	36	16	15
Current account balance	..	42	-55	-68
Financing items (net)	..	-40	51	74
Changes in net reserves	..	-2	4	-5
Memo:				
Reserves including gold (US\$ millions)	..	86	22	26
Conversion rate (DEC, local/US\$)	7.4	6.2	5.0	5.0



EXTERNAL DEBT and RESOURCE FLOWS

	1976	1986	1996	1997
(US\$ millions)				
Total debt outstanding and disbursed	1	148	148	139
IBRD	0	4	4	4
IDA	0	0	0	0
Total debt service	0	12	15	11
IBRD	0	0	1	1
IDA	0	0	0	0
Composition of net resource flows				
Official grants	5	8	7	8
Official creditors	0	15	6	8
Private creditors	0	12	-4	-3
Foreign direct investment	6	14	30	49
Portfolio equity	0	0	0	0
World Bank program				
Commitments	0	0	0	0
Disbursements	0	1	0	0
Principal repayments	0	0	1	1
Net flows	0	1	-1	0
Interest payments	0	0	0	0
Net transfers	0	1	-1	-1



OFFICE MEMORANDUM

DATE: September 24, 1998

TO: Indian Ocean Commission and Delegates from Beneficiary Governments

FROM: Elizabeth Adu, Principal Counsel

XTENSION: 81758

SUBJECT: **GEF: Western Indian Ocean Oil Spill Contingency Planning Project
Action Memo**

This memorandum summarizes the actions to be taken by the Indian Ocean Commission (the recipient) and the Federal Republic of Comoros, the Republic of Madagascar, Republic of Mauritius and Republic of the Seychelles (the Governments), before: (a) the GEF Trust Fund Grant for the above-mentioned Project may be approved by the Executive Directors; and (b) the GEF Trust Fund Grant Agreement may be signed; and (c) the GEF Trust Fund Grant Agreement may be declared effective.

1. Actions to be taken through signing:

(a) Before presentation of the Grant to the Executive Directors, the Bank would wish to receive:

- (i) from the Recipient a letter stating that the draft GEF Trust Fund Grant Agreement, as negotiated, has been approved by the Recipient;
- (ii) from the Governments, the addendum to Letter of Commitment duly signed by the respective Minister responsible for the Environment;
- (iii) from the Recipient a letter stating the Steering Committee has been established;
- (iv) from Reunion, the International Maritime Organization and the International Petroleum Industry Environmental Conservation Association, expressing their support for the Project and their willingness to assist with its implementation.

(b) Before signing the legal documents, the Bank must receive from the Recipient (if the Secretary General of the IOC is not going to sign the GEF Trust Fund Grant Agreement), a letter appointing a representative to execute and deliver the GEF Trust Fund Grant Agreement and related documents for the above-mentioned GEF Trust Fund Grant.

2. Actions Precedent to Effectiveness:

Pursuant to Section 7.01 of the GEF Trust Fund Grant Agreement, the following event is specified as an additional condition to the effectiveness of the GEF Trust Fund Grant Agreement within the meaning of Section 12.01 (c) of the General Conditions, namely that the Project Implementation Plan, in form and substance acceptable to the Bank, has been adopted by the Recipient.

cc: Messrs./Mmes. A. Ghzala, P. de Naurois, A. Barra.

ANNEX 1

List of participants

Indian Ocean Commission Delegation

Mr. C. E. Mohamed , Secretary General
Mr. R. Prayag, Regional Project Coordinator

IBRD Delegation

Mr. A. Ghzala, Team Leader
Mrs. E. Adu, Principal Counsel
Mr. P. de Naurois, Senior Financial Analyst
Mrs. A. Barra, Team Assistant

Beneficiary Countries Representatives, as observers

Comoros:

Mr. A. Abdou, Secretary General, Ministry of Production, Fisheries, Environment and Craft

Madagascar:

Mr. A. Ratovoson, Secretary General, Ministry of Environment

Mauritius:

Mr. T. S. Ramyeed, Acting Director, Dept. of Environment, Ministry of Local Government and Environment
Mr. C. Chautoori, Environment Officer, Dept. of Environment, Ministry of Local Government and Environment

Seychelles:

Major M. Rosette, Adjutant, Seychelles Coast Guard

Global Environmental Facility (GEF)/World Bank as Implementing Agency

Western Indian Ocean Islands Oil Spill Contingency Planning Project

Agreed Minutes of Negotiations

1. Negotiations for a proposed GEF Trust Fund Grant in an amount of SDR 2,376,100 (**Western Indian Ocean Islands Oil Spill Contingency Planning Project**) were held in Mauritius from September 23 to 25, 1998 between World Bank as an Implementing Agency of the GEF Trust Fund and the Indian Ocean Commission (IOC). Representatives from the Beneficiary Countries attended as Observers. A list of participants is attached (Annex 1). The revised draft GEF Trust Fund Grant Agreement reflects the agreements reached during negotiations. These Agreed Minutes record the understandings reached during negotiations.

2. Condition of negotiations.

The only condition of negotiations, the preparation of the Project Implementation Plan (PIP), was fulfilled. The Bank delegation provided comments on the PIP to the Regional Project Coordinator.

3. Project costs and financing.

The Project costs and financing plan was reviewed. The agreed final project costs (including contingencies) is US\$ 4.636 million, of which the GEF Trust Fund Grant is US\$ 3.152 million (exchange rate as of August 31, 1998: US\$ 1.32649 = 1.00 SDR). The final PAD will reflect the detailed costs and the financing plan.

4. Taxes and Duties exemption.

The Bank Delegation explained that the proceeds of the GEF Trust Fund Grant will only finance the expenditures under the Project excluding taxes and duties. Should there be any taxes or duties imposed in any of the countries, these would be borne by the said Beneficiary Country.

The Secretary General of IOC stated that all IOC projects are exempt from taxes and duties by virtue of its diplomatic status.

5. Action Plan for Institutional and Financial Sustainability.

The draft Action Plans prepared by the Indian Ocean Commission (IOC) were reviewed. It was agreed that these Action Plans will be finalized to: (i) reflect a firm commitment by the Beneficiary Countries to the principles of institutional and financial sustainability; (ii) accept, as indicative figures, the estimates of the running costs (after Project completion) as provided by the Consultants; (iii) include the revision and reassessment of the Action Plans (on the basis of more accurate figures) in the mid-term review; and (iv) have the Action Plans fully implemented prior to the closing date of the Grant (June 30, 2003).

6. Written commitments from the Beneficiary Countries.

The Bank Delegation received letters of commitment provided by Comoros, Madagascar and Seychelles. It was agreed that additional letters, to be signed by the respective Ministers of Environment of these countries, would be provided prior to Board Presentation, reflecting the Beneficiary Countries' commitment to: (i) adopt and implement the National Contingency Plans; (ii) initiate, by July 1999, the process necessary to ratify the relevant international conventions (CLC92, Fund 92 and OPRC 90); and (iii) implement the recommendations of the Study on Institutional and Financial Sustainability. These additional letters should include as Annex the Institutional and Financial Sustainability Action Plans as defined above. It was also agreed that Mauritius will submit its written commitment according to the revised draft letter provided by the Bank Delegation, and to be signed by the Minister of Finance.

7. Disclosure of Information.

The IOC and Representatives from the Beneficiary Countries cleared the Project Documents for public release in accordance with Bank policy.

8. Next steps.

The IOC and Bank Delegations agreed on the following:

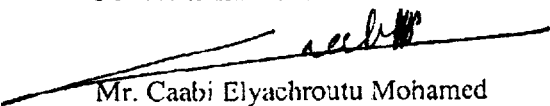
(a) Prior to Board presentation: (i) the Steering Committee established; (ii) the additional letters described in paragraph 6 above and the letter of commitment from Mauritius, sent to the Bank; and (iii) written commitments from Reunion, IPIECA and IMO, expressing their support for the Project and their willingness to assist with its implementation, sent to the Bank (the written commitment of South Africa has been transmitted to the Bank Delegation).

(b) Prior to effectiveness: a letter from IOC informing the Bank of adoption of the PIP, in form and substance acceptable to the Bank.

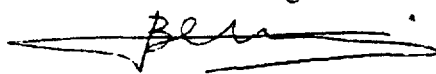
9. Target dates.

If all of the above conditions are fulfilled, it is expected that Board presentation will take place by November 15, 1998 and effectiveness by mid-December 1998. Signing of the Grant Agreement could take place in Washington or in one of the Beneficiary Countries if the travel plans of the Country Director for Indian Ocean Islands permit.

For the Indian Ocean Commission Delegation


Mr. Caabi Elyachroutu Mohamed
Secretary General

For the IBRD Delegation


Mr. Abdelmoula Ghzala
Team Leader

Mauritius, September 25, 1998