Document of
The World Bank

Report No: ICR2568

IMPLEMENTATION COMPLETION AND RESULTS REPORT
(TF-90304)

ON A

GRANT FROM THE
GLOBAL ENVIRONMENT FACILITY TRUST FUND

IN THE AMOUNT OF US$11.0 MILLION

TO THE

REPUBLIC OF SOUTH AFRICA

(FOR COMOROS, KENYA, MADAGASCAR, MAURITIUS, MOZAMBIQUE,
SEYCHELLES, SOUTH AFRICA, AND TANZANIA)

FOR A

GEF-WESTERN INDIAN OCEAN MARINE HIGHWAY DEVELOPMENT AND COASTAL AND MARINE CONTAMINATION PREVENTION PROJECT

June 18, 2013

Africa Transport (AFTTR)
Africa Regional Integration (AFCRI)
Africa Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective December 31, 2012)

Comorian franc 1.00 = US$ 0.0027
US$ 1.00 = Comorian franc 373

Kenya shillings 1.00 = US$ 0.012
US$ 1.00 = Kenya shillings 86.15

Malagasy ariary 1.00 = US$ 0.00044
US$ 1.00 = Malagasy ariary 2,272.99

Mauritian rupees 1.00 = US$ 0.033
US$ 1.00 = Mauritian rupees 30.55

New Mozambique meticals 1.00 = US$ 0.034
US$ 1.00 = New Mozambique meticals 29.70

Seychelles rupees 1.00 = US$ 0.076
US$ 1.00 = Seychelles rupees 13.10

South African rand 1.00 = US$ 0.12
US$ 1.00 = South African rand 8.49

Tanzania shillings 1.00 = US$ 0.00063
US$ 1.00 = Tanzania shillings 1,585.01

FISCAL YEAR
January 1 – December 31

ABBREVIATIONS AND ACRONYMS

AIS	Automatic Information System
ASCLME	Agulhas and Somali Current Large Marine Ecosystems Project
AMESD	African Monitoring of the Environment for Sustainable Development
AtoN	Aids to navigation
CAS	Country assistance strategy
CLC	International Convention on Civil Liability for Oil Pollution Damage
ESA	Environmentally sensitive areas
GMDSS	Global Maritime Distress and Safety System
FM	Financial management
FUND	International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage
GEF	Global Environment Facility
GEO	Global Environment Objective
HNS	Hazardous and noxious substances

ICR	Implementation Completion and Results Report
IMO	International Maritime Organization
IOC	Indian Ocean Commission
IOMOU	Indian Ocean Memorandum of Understanding on port state control
ISR	Implementation Status and Results Reports
MRCC	Maritime Rescue Coordination Center
M&E	Monitoring and evaluation
NOSCP	National Oil Spill Contingency Plans
OPRC	International Convention on Oil Pollution Preparedness, Response and Cooperation
PAD	Project Appraisal Document
PDF	Project Development Fund
PDO	Project Development Objective
PRSP	*Plan Régional de Surveillance des Pêches*
RCC	Regional Coordination Center
REMPEC	Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea
ROSCP	Regional Oil Spill Contingency Plan
SAMSA	South African Maritime Safety Authority
SHOM	*Service Hydrographique et Océanographique de la Marine*
SWIOFP	Southwest Indian Ocean Fisheries Project (SWIOFP)
UNCLOS	United Nations Convention on the Law of the Sea

Regional Vice President	:	Makhtar Diop
Director Regional Integration	:	Colin Bruce
Sector Director	:	Jamal Saghir
Sector Manager	:	Supee Teravaninthorn
Project Team Leader	:	Richard Martin Humphreys
ICR Team Leader	:	Benjamin Garnaud

WESTERN INDIAN OCEAN
GEF – Marine Highway Development and Coastal and Marine Contamination Prevention Project

CONTENTS

DATASHEET

A. Basic Information			
Country:	Africa	Project Name:	GEF-Western Indian Ocean Marine Highway Development and Coastal and Marine Contamination Prevention
Project ID:	P078643	L/C/TF Number(s):	TF-90304
ICR Date:	06/18/2013	ICR Type:	Core ICR
Lending Instrument:	SIL	Borrower:	IND. OC. ISLANDS, KENYA, SA, TANZ., MOZ.
Original Total Commitment:	USD 11.00M	Disbursed Amount:	USD 8.26M
Revised Amount:	USD 11.00M		
Environmental Category: C		**Global Focal Area: I**	
Implementing Agencies: Indian Ocean Commission South African Maritime Safety Authority			
Cofinanciers and Other External Partners:			

B. Key Dates				
Process	**Date**	**Process**	**Original Date**	**Revised / Actual Date(s)**
Concept Review:	10/14/2003	Effectiveness:	04/30/2008	01/24/2008
Appraisal:	07/28/2005	Restructuring(s):		12/23/2010 08/08/2011 09/26/2012
Approval:	05/22/2007	Mid-term Review:		11/01/2010
		Closing:	06/30/2011	12/31/2012

C. Ratings Summary	
C.1 Performance Rating by ICR	
Outcomes:	Moderately Unsatisfactory
Risk to Global Environment Outcome	High

Bank Performance:	Moderately Unsatisfactory
Borrower Performance:	Moderately Unsatisfactory

C.2 Detailed Ratings of Bank and Borrower Performance			
Bank	**Ratings**	**Borrower**	**Ratings**
Quality at Entry:	Moderately Unsatisfactory	Government:	Moderately Unsatisfactory
Quality of Supervision:	Moderately Satisfactory	Implementing Agency/Agencies:	Moderately Satisfactory
Overall Bank Performance:	Moderately Unsatisfactory	**Overall Borrower Performance:**	Moderately Unsatisfactory

C.3 Quality at Entry and Implementation Performance Indicators			
Implementation Performance	**Indicators**	**QAG Assessments (if any)**	**Rating**
Potential Problem Project at any time (Yes/No):	No	Quality at Entry (QEA):	None
Problem Project at any time (Yes/No):	No	Quality of Supervision (QSA):	None
GEO rating before Closing/Inactive status	Satisfactory		

D. Sector and Theme Codes		
	Original	**Actual**
Sector Code (as % of total Bank financing)		
Central government administration	80	80
Ports, waterways and shipping	20	20

Theme Code (as % of total Bank financing)		
Biodiversity	14	14
Environmental policies and institutions	29	29
Law reform	14	14
Pollution management and environmental health	29	29
Regional integration	14	14

E. Bank Staff		
Positions	**At ICR**	**At Approval**
Vice President:	Makhtar Diop	Hartwig Schafer
Country Director:	Colin Bruce	Mark D. Tomlinson
Sector Manager:	Supee Teravaninthorn	C. Sanjivi Rajasingham
Project Team Leader:	Richard Martin Humphreys	Abdelmoula M. Ghzala
ICR Team Leader:	Benjamin Garnaud	
ICR Primary Author:	Benjamin Garnaud	

F. Results Framework Analysis

Global Environment Objectives (GEO) and Key Indicators(as approved)

The project's development objective was to increase the safety and efficiency of navigation. This was to be achieved by establishing a demonstration marine highway to guide ships around environmentally sensitive areas and through selected busy sea lanes and by supporting the widening of the regional agreement on port state control and the implementation of its provisions.

The project's medium to long-term global environmental goal was to reduce the risk of ship-based environmental contamination (such as oil spills from groundings and illegal discharges of ballast and bilge waters) and to strengthen the capacity of countries to respond to oil or chemical spill emergencies in the region.

The project had three specific global environmental objectives: The first was to ascertain the economic, technical, and institutional feasibility of introducing modern aids to navigation systems in the region, such as an electronically supported marine highway, to guide ships through sensitive areas and to encourage monitoring of the movements and activities of fishing and other vessels operating within countries' territorial waters. The second objective was to support the widening of the existing regional agreement (June 5, 1998) on port state control and the implementation of its provisions. The third objective, focusing on Kenya, Mozambique, South Africa, and Tanzania, was to reduce the risk of environmental damage to beaches, fishing grounds, and other domestic resources from spills of oil and chemicals. This was to be achieved by supporting the efforts of Kenya, Mozambique, South Africa, and Tanzania to become part of a regional oil spill response plan, by completing the identification and mapping of environmentally sensitive areas along coasts and sea lanes, and by supporting regional collaboration with the other Western Indian Ocean island states.

Revised Global Environment Objectives (as approved by original approving authority) and Key Indicators and reasons/justifications

(a) GEO Indicator(s)

Indicator	Baseline Value	Original Target Values (from approval documents)	Formally Revised Target Values	Actual Value Achieved at Completion or Target Years
Indicator 1 :	Modern aids to navigation systems (forming the pilot marine highway) installed and the feasibility of the approach for the region assessed with the full involvement of industry groups. Should the concept prove feasible, an action plan is developed.			
Value (quantitative or Qualitative)	No marine highway infrastructure in place	Pilot operational, evaluation complete and plans for further development complete		Pilot operational
Date achieved	05/22/2007	06/30/2011		12/31/2012
Comments (incl. % achievement)	67% achievement. The evaluation of the pilot marine highway has not been conducted. Plans for further development have therefore not been developed, although SAMSA did draft potential follow-on activities.			
Indicator 2 :	Action plan for monitoring of fisheries activities developed by midterm review, and some of its main recommendations implemented thereafter.			
Value (quantitative or Qualitative)	No action plan yet developed	Action plan completed		Not completed
Date achieved	05/22/2007	06/30/2009		12/31/2012
Comments (incl. % achievement)	0% achievement. No fisheries monitoring activity has been undertaken under the project as it was covered by a separate project.			
Indicator 3 :	Agreement reached with Madagascar and Comoros to join the regional agreement on port state control that was signed on June 5, 1998.			
Value (quantitative or Qualitative)	Madagascar and Comoros not currently part of the regional agreement	Complete		Comoros joined the regional agreement, but not Madagascar
Date achieved	05/22/2007	06/30/2011		12/31/2012
Comments (incl. % achievement)	50% achievement.			
Indicator 4 :	Agreement reached by all eight states participating in the project on the arrangements for cooperation in cases of major pollution incidents			
Value (quantitative or	Agreement currently exist between the island states	Training conducted,		Training conducted, national

Qualitative)		national contingency plans completed, regional agreement drafted, regional coordination center established and assessed		contingency plans completed, regional agreement drafted
Date achieved	05/22/2007	06/30/2011		12/31/2012
Comments (incl. % achievement)	70% achievement. Extensive training has been provided on oil spill response; most NOSCPs are completed but some still have to be nationally endorsed; regional agreement drafted and signed by all countries; RCC designed but not established.			
Indicator 5 :	Number of passages of vessels travelling through the region using the marine highway and its electronic charts for navigation.			
Value (quantitative or Qualitative)	No marine highway infrastructure in place, so no ship use it	Pilot operational, evaluation complete and plans for further development complete		Unknown
Date achieved	05/22/2007	06/30/2011		12/31/2012
Comments (incl. % achievement)	The value does not match the indicator. It would be difficult to monitor the number of passages of vessels, and no system has been put in place to do so.			
Indicator 6 :	Number of ships inspections carried out at major ports in the region (per year)			
Value (quantitative or Qualitative)	223	475		511
Date achieved	06/30/2005	06/30/2011		12/31/2011
Comments (incl. % achievement)	100% achievement. *iomou.org website* indicates that Kenya, South Africa and Tanzania combined carried out 511 ship inspections in 2011. The target has therefore been achieved in 2011.			

(b) Intermediate Outcome Indicator(s)

Indicator	Baseline Value	Original Target Values (from approval documents)	Formally Revised Target Values	Actual Value Achieved at Completion or Target Years
Indicator 1 :	Electronic nautical charts and publications produced			
Value (quantitative or	0	35		27

Qualitative)				
Date achieved	05/22/2007	06/30/2011		12/31/2012
Comments (incl. % achievement)	77% achievement. The target value of 35 was set without a sufficient knowledge of the requirements. All the necessary surveys were conducted, and 27 updated charts were produced.			
Indicator 2 :	Charts and publications maintained and updated			
Value (quantitative or Qualitative)	0	35		Unknown
Date achieved	05/22/2007	06/30/2011		12/31/2012
Comments (incl. % achievement)	The rationale behind this indicator is unclear, as no charts were published from scratch. Instead, charts were updated after the corresponding surveys. IO indicator 1 and IO indicator 2 are therefore measuring the same achievement.			
Indicator 3 :	Main aids to navigation on the route of the marine highway surveyed and rehabilitated			
Value (quantitative or Qualitative)	0	5		1
Date achieved	05/22/2007	06/30/2011		12/31/2012
Comments (incl. % achievement)	20% achievement. The target value was set before the survey was done, it is therefore not relevant. In practice, 2 aids to navigation required rehabilitation, but only one was completed by project closing.			
Indicator 4 :	Automatic information service and ship communications system established			
Value (quantitative or Qualitative)	0	4		6
Date achieved	05/22/2007	06/30/2011		12/31/2012
Comments (incl. % achievement)	150% achievement. The target has been exceeded, as 4 AIS base stations and 2 ship-based stations have been installed.			
Indicator 5 :	Search and rescue communication centers (Cape Town and Réunion) and all states involved in the project fully operational			
Value (quantitative or Qualitative)	Communication links not yet fully established with the participating states	Links established		Links established
Date achieved	05/22/2007	06/30/2011		12/31/2007
Comments (incl. % achievement)	100% completion. The baseline value was wrong at the time of appraisal, as the communication links were established and well-functioning between the MRCCs of the region.			
Indicator 6 :	Demonstration phase assessed and, if found feasible, second phase prepared			
Value (quantitative or Qualitative)	No marine highway infrastructure in place	Evaluation completed. Plans for further development		No evaluation has been conducted

		complete		
Date achieved	05/22/2007	06/30/2011		12/31/2012
Comments (incl. % achievement)	0% achievement. This indicator is redundant with PDO Indicator 1.			
Indicator 7 :	Pollution prevention and contingency management plans developed for Kenya, Mozambique, and Tanzania			
Value (quantitative or Qualitative)	None currently in place	3, 1 for each country		2: one in Kenya and one in Mozambique
Date achieved	05/22/2007	06/30/2009		12/31/2012
Comments (incl. % achievement)	67% achievement. Plans have been developed in Kenya and Mozambique but not officially approved yet. The Tanzanian plan was not completed at project closing.			
Indicator 8 :	Methodology to value ecosystems benefits developed and used by environmental managers			
Value (quantitative or Qualitative)	None currently in place	Complete		A report on economic valuation methodologies and guidelines has been published.
Date achieved	05/22/2007	06/30/2008		12/31/2012
Comments (incl. % achievement)	50% achievement. The report has been published, but it is not a methodology per se, nor is it used by environmental managers.			
Indicator 9 :	Countries establish and continuously maintain databases and geographic information systems, as indicated in discussions with staff of project entities			
Value (quantitative or Qualitative)	None currently in place	Complete		IOC has established a such a database on behalf of the countries
Date achieved	05/22/2007	06/30/2011		12/31/2012
Comments (incl. % achievement)	67% achievement. Achievement of this indicator is difficult to assess however, since the activity significantly deviated from the original design.			
Indicator 10 :	Kenya, Mozambique, and Tanzania pass national laws and regulations to implement OPCR, FUND and CLC conventions. Additional conventions to be ratified will be identified under the project.			
Value (quantitative or Qualitative)	Kenya, Mozambique, and Tanzania have ratified OPRC90, CLC (Prot 92), and Fund (Prot 92), but have not passed national laws and regulations to implement them	Training. Laws and regulations passed.		Some training has been provided. No information on law and regulations passed

Date achieved	05/22/2007	06/30/2009		12/31/2012
Comments (incl. % achievement)	40% achievement. Achievement is difficult to assess since training has been provided to a limited number of lawyers and the project did not support nor monitor the domestication of these conventions.			
Indicator 11 :	Kenya, Mozambique and Tanzania adopt national oil spill contingency plans			
Value (quantitative or Qualitative)	Plans in different stage developed	Complete		Plans have been developed but not officially adopted
Date achieved	05/22/2007	06/30/2012		12/31/2012
Comments (incl. % achievement)	50% achievement. Plans have been developed but not officially approved yet. This indicator is redundant with IO Indicator 7.			
Indicator 12 :	Equipment in place and used in training			
Value (quantitative or Qualitative)	Some equipment in place	Complete		Complete
Date achieved	05/22/2007	06/30/2011		12/31/2012
Comments (incl. % achievement)	100% achievement. Oil spill equipment is in place in all countries and has been used in comprehensive trainings.			
Indicator 13 :	A regional marine pollution contingency plan that covers all participating countries is established			
Value (quantitative or Qualitative)	Neither Kenya, Mozambique, Tanzania, South Africa are currently in a regional plan	Complete		Complete
Date achieved	05/22/2007	06/30/2010		12/31/2012
Comments (incl. % achievement)	100% achievement. The plan is established but will not be operational until the regional center is established and fully functioning.			
Indicator 14 :	A regional center to coordinate national action and to monitor region wide environmental conditions is fully operational by the end of the project			
Value (quantitative or Qualitative)	A sub-regional center is currently operating in Madagascar	Center is operating		The center has been designed but is not operating
Date achieved	05/22/2007	06/30/2011		12/31/2012
Comments (incl. % achievement)	50% achievement. Although the regional center has been designed and will be hosted by SAMSA in South Africa, it will not be operational until South Africa signs the Host Country agreement.			
Indicator 15 :	Agreement reached with Madagascar and Comoros to join the regional agreement on port state control that was signed on June 5, 1998			
Value (quantitative or Qualitative)	Madagascar and Comoros not currently part of the agreement	Complete		Comoros joined the agreement, but not Madagascar

Date achieved	05/22/2007	06/30/2011		12/31/2012
Comments (incl. % achievement)	50% achievement. The intention of Madagascar to join the agreement has been delayed because of the current political situation in the country.			
Indicator 16 :	Inspectors trained under the project to international standards in port state control operating			
Value (quantitative or Qualitative)	16 inspectors currently operating in South Africa	At least 2 per country		At least 2 per country
Date achieved	05/22/2007	06/30/2011		12/31/2012
Comments (incl. % achievement)	100% achievement. At least 2 students from Kenya, 3 from Comoros, Madagascar, Mauritius, Mozambique and Seychelles, 4 from Tanzania and 11 from South Africa, were trained.			
Indicator 17 :	Mechanisms for coordination among related GEF-supported initiatives created and maintained			
Value (quantitative or Qualitative)	No mechanisms are yet in place	Mechanisms in place		Mechanisms in place
Date achieved	05/22/2007	06/30/2011		12/31/2012
Comments (incl. % achievement)	100% achievement. Several mechanisms are in place to support coordination between similar projects: websites, cross-invitation of project staff in workshops, conferences and steering committees.			

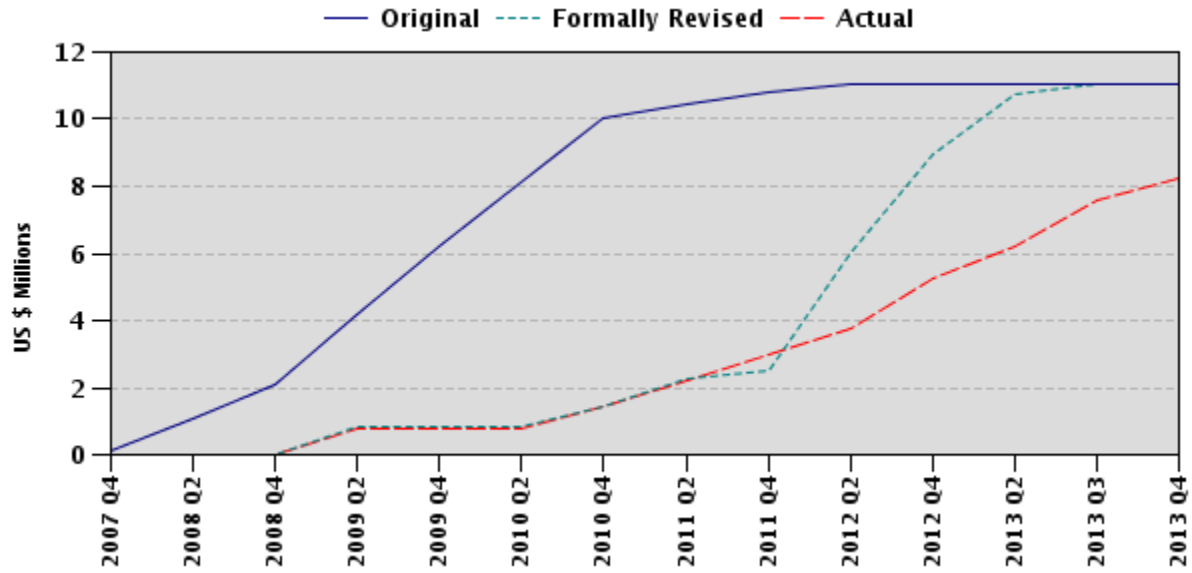
G. Ratings of Project Performance in ISRs

No.	Date ISR Archived	GEO	IP	Actual Disbursements (USD millions)
1	09/08/2007	Satisfactory	Satisfactory	0.00
2	05/06/2008	Satisfactory	Satisfactory	0.00
3	10/31/2008	Satisfactory	Satisfactory	0.80
4	01/22/2009	Satisfactory	Satisfactory	0.80
5	06/22/2009	Satisfactory	Satisfactory	0.80
6	09/11/2009	Satisfactory	Satisfactory	0.80
7	04/19/2010	Satisfactory	Satisfactory	0.80
8	12/08/2010	Satisfactory	Satisfactory	2.23
9	06/01/2011	Satisfactory	Satisfactory	2.97
10	01/29/2012	Satisfactory	Satisfactory	3.84
11	08/17/2012	Satisfactory	Satisfactory	5.31
12	01/21/2013	Satisfactory	Satisfactory	7.23

H. Restructuring (if any)

Restructuring Date(s)	Board Approved GEO Change	ISR Ratings at Restructuring		Amount Disbursed at Restructuring in USD millions	Reason for Restructuring & Key Changes Made
		GEO	IP		
12/23/2010		S	S	2.23	Extension of the closing date, from June 30, 2011 to December 31, 2012, to compensate for delays at startup.
08/08/2011	N	S	S	3.59	Reallocation of funds to reflect: (i) the extension of the closing date; (ii) actual costs of the various works, goods and consulting services; and (iii) larger than anticipated in kind contributions from the various participating States and organizations.
09/26/2012		S	S	5.55	Reallocation of funds from unallocated category to finance additional oil spill combatting equipment kits by IOC, as well as GMDSS equipment for the Mauritius MRCC.

I. Disbursement Profile



1 Project Context, Development and Global Environment Objectives and Design

1.1 Context at Appraisal

1. The coastal and marine environment of the Western Indian Ocean is of global importance. Home to two large marine ecosystems in the Agulhas and Somali currents, the region exhibits high biodiversity and endemism. The economies of the riparian countries and livelihoods of many communities depend on the health of these ecosystems, which are threatened by several anthropogenic pressures, including overfishing, pollution, destruction of coral reefs, and unsustainable development of coastal zones.

2. At the time of appraisal, the shipping lanes along the East African coast were among the busiest in the world, carrying over 30 percent of the world's crude oil supplies. Over 5000 tanker voyages per year took place in the sensitive coastal waters of the region, passing in close proximity of the World Heritage Site of Aldabra atoll (Seychelles). Oil and gas exploration programs also operated in the region. The risk of oil spills was therefore significant, which would severely harm the exceptional ecosystems and the economies that rely on them.

3. Most of the countries in the region are party to the United Nations Convention on the Law of the Sea (UNCLOS), and had declared a 200-mile exclusive economic zone to establish a claim to the continental shelf. However, they lacked the institutional and financial capacity to effectively monitor activities of vessels and to enforce their control over activities taking place within their jurisdictions and responsibilities. Accordingly, there was mutual recognition about the need to work together to improve the safety of navigation and protect the marine and coastal environment.

4. The project included Comoros, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, South Africa and Tanzania, and aimed at protecting the globally-significant marine and coastal resources of the Western Indian Ocean. It had the worthwhile aim of reducing the risk of oil spills by improving safety of navigation in the regional seas and supporting the beneficiary countries in enhancing their monitoring capacity. It also targeted the response to oil spills by building national and local capacity to combat oil spills, and through the creation of a mechanism for regional cooperation.

5. The countries of the region were not likely to coordinate and undertake activities that demand local resources but provide regional and global benefits. This project was designed to fill this gap and support the countries in this much needed initiative. The initiative also benefited from the positive experience gained in the earlier project in supporting countries' efforts to work cooperatively in regional seas, international waters and trans-boundary pollution.[1] The involvement of the World Bank and the Global Environment Facility (GEF) was also a significant factor in mobilizing resources from other sources.

[1] The (FY99) West Indian Ocean Islands Oil Spill Contingency Planning Project (P036037), was financed by the GEF, and implemented between February 1999 and June 2004.

6. The proposed project was in line with the Country Assistance Strategies (CASs) of the participating countries. The Kenya CAS (2004) named the proposed project as important not only to protect coastal and marine resources, but also to promote regional integration. The Mozambique CAS (2003) and the Country Partnership Strategy for Mauritius (2006) emphasized the importance of protecting coastal and marine resources to promote sustainable development of tourism, a major contributor to economic growth in the countries. The Madagascar CAS (2003) placed environmental protection at the center of its strategy, noting the strong linkages between environmental degradation and high levels of poverty. The Interim Strategy Note for Comoros (2006) and the CAS for Tanzania (2000) discussed environmental protection as a key element of their strategies for sustainable development. At the time of appraisal, no recent CASs had been produced for Seychelles or for South Africa. Both countries had, however, taken strong action to protect their coastal and marine resources in recognition of the importance of the tourism and fishing industries to their respective economies.

7. The Project Development Objectives (PDOs) and Global Environmental Objectives (GEOs) of the project were also consistent with the objectives of the Nairobi Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region, to encourage regional initiatives and cooperation among the states for the protection, management, and development of marine and coastal resources of the eastern and southern African region. They were also consistent with several conventions of the International Maritime Organization (IMO), which, collectively, require signatories to take coordinated action to protect marine and coastal resources and ensure the safety of navigation. Similarly, they were aligned with GEF goals and criteria.

1.2 Original Project Development Objective, Global Environmental Objectives and Key Indicators

8. The PDO, as defined in the Project Appraisal Document (PAD), was to increase the safety and efficiency of navigation. This was to be achieved by establishing a demonstration marine highway to guide ships around environmentally sensitive areas and through selected busy sea-lanes and by supporting widening the regional agreement on port state control and implementation of its provisions.

9. Key performance indicators included:

- Number of passages of vessels traveling through the region using the marine highway and its electronic charts for navigation; and
- Number of ship inspections carried out at major ports in the region.

10. The project's medium-to-long term global environmental goals were to reduce the risk of ship-based environmental contamination (such as oil spills from groundings and illegal discharges of ballast and bilge waters) and to strengthen the capacity of countries to respond to oil or chemical spill emergencies in the region.

11. The project had three specific GEOs: The first was to ascertain the economic, technical, and institutional feasibility of introducing modern aids to navigation systems in the region, such as an electronically supported marine highway, to guide ships through sensitive areas and

encourage monitoring of the movements and activities of fishing and other vessels operating within countries' territorial waters. The second objective was to support widening the existing regional agreement (June 5, 1998) on port state control[2] and implementation of its provisions. The third objective, focusing on Kenya, Mozambique, South Africa, and Tanzania, was to reduce the risk of environmental damage to beaches, fishing grounds and other domestic resources from spills of oil and chemicals. This was to be achieved by supporting the efforts of Kenya, Mozambique, South Africa, and Tanzania to prepare a regional oil spill response plan, by completing the identification and mapping of environmentally sensitive areas along coasts and sea lanes, and support regional collaboration with the Western Indian Ocean island states. Key performance indicators included:

- Modern aids to navigation systems (forming the pilot highway) installed and the feasibility of the approach for the region assessed with the full involvement of industry groups. Should the concept prove feasible, a plan for further development is put into place;
- Action plan for monitoring of fisheries activities developed by mid-term review, and some of its main recommendations implemented thereafter;
- Agreement reached with Madagascar and Comoros to join the regional agreement on port state control, signed on June 5, 1998; and
- Agreement reached by all eight states participating in the project on the arrangements for cooperation in cases of major pollution incidents.

1.3 Revised PDO, GEO and Key Indicators

12. The PDOs, the GEOs, and key indicators were not revised during project implementation.

1.4 Main Beneficiaries

13. The beneficiaries identified in the PAD are the participating States, namely Comoros, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, South Africa and Tanzania. Furthermore, it can be deduced from the project description and implementation that the primary target groups were the stakeholders residing in, or living off healthy marine and coastal ecosystems, primarily coastal communities and individuals involved in relevant economic activities (including fishing and tourism). Port authorities, the maritime sector and passengers benefited from the increased safety and efficiency of navigation under the project.

1.5 Original Components

14. The project was approved by the Board on May 22, 2007, and consisted of four main components:

15. **Component A: Development of a regional marine highway and institutions.** The first component was intended to support the establishment of a marine highway to improve safety of navigation, through: (1) production of nautical charts and publications incorporating information on environmental assets; (2) maintenance of these charts and publications; (3) survey and

[2] The regional agreement refers to the Indian Ocean Memorandum of Understanding on port state control (IOMOU), which aims at controlling the plying of sub-standard ships in the region.

rehabilitation of the main aids to navigation on the route of the marine highway; (4) establishment of an automatic information service; (5) support to search and rescue activities; and finally (6) the evaluation of the demonstration phase and preparation of a second phase if the demonstration phase proves to be feasible and sufficiently beneficial to justify costs.

16. **Component B: Capacity building for prevention of coastal and marine contamination.** The second component was intended to undertake preparatory work for oil spill response planning, through: (1) support to seminars and workshops on environmental sensitivity mapping, issues related to implementation of conventions, marine navigation safety, prevention of marine and coastal pollution, risk assessment and development of appropriate response strategies, and related matters; (2) creation of site-specific pollution prevention and contingency management plans for coastal and marine hotspots; (3) development of a methodology to identify and assign values to the key environmental resources in the region; and (4) development of a regional database and a geographic information system on the marine environment, marine and coastal resources, ship movements, ship waste, and sea-based activities.

17. **Component C: Building capacity for regional oil spill response.** The third component was intended to improve regional oil spill response capacity, in Kenya, Mozambique, South Africa, and Tanzania, through: (1) translation of relevant IMO conventions (primarily International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC), International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (FUND), and International Convention on Civil Liability for Oil Pollution Damage (CLC)) intended to protect the marine and coastal environments and to improve the safety of navigation into national laws and regulations, and capacity building to implement the provisions of the conventions; (2) the development of national oil and chemical spill contingency plans; (3) an assessment of the needs and provision of specifications for the required equipment; and (4) the facilitation of regional agreements, the development of a regional contingency plan, and the establishment of a Regional Coordination Center (RCC) to coordinate national actions and to monitor environmental conditions and causes of degradation and damage across the region.

18. **Component D: Port state control, fisheries monitoring, and project coordination and management.** The fourth component was intended to further enhance the impact of the project by: (1) supporting the adoption of port state control; (2) supporting the monitoring of fisheries activities; (3) coordinating with other GEF-supported projects; and (4) supporting project coordination and management.

19. **Institutional and implementation arrangements.** The Recipient of the Grant was the Republic of South Africa, on behalf of the participating countries. Given its dual (shipping / environment) technical nature and the large number of countries involved, two agencies were chosen to implement the project. A regional project management unit was established, headed by a regional coordinator based at the South African Maritime Safety Authority (SAMSA), in Cape Town, South Africa. This regional unit was responsible for implementing components A, D1 and D4, and for overall coordination of the project. A sub-regional project management unit was also established at the Indian Ocean Commission (IOC), headed by a sub-regional coordinator. This latter unit was responsible for implementing components B, C, D2 and D3. National project coordinators from the Ministry of Transport or the Ministry of Environment of each participating

country were appointed to coordinate implementation of the national-level activities. To accommodate for early issues with the dual technical nature of the project, most countries later appointed a second national coordinator from the other Ministry.

1.6 Revised Components

20. The components of the project were not revised.

1.7 Other significant changes

21. During the five-and-half-year implementation period, the project underwent three restructurings. They are detailed in the following paragraphs.

22. **The first restructuring was approved on December 23, 2010**: Given the delays after effectiveness, reflecting the extensive coordination efforts required across the eight countries and several international agencies, the Recipient requested an 18 month extension of the closing date of the Grant from June 2011 to December 31, 2012 in a letter dated November 13, 2010. This followed the recommendations of the mid-term review, and intended to facilitate full implementation of all project components. The extension request was endorsed during the Project Steering Committee meeting, involving representatives from all participating States (i.e. Comoros, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, South Africa, and Tanzania) and which took place during the week of April 19-23, 2010.

23. **The second restructuring was approved on August 8, 2011**: In a letter dated June 17, 2011, the Minister of Environment and Water of South Africa requested a reallocation of grant proceeds among the existing disbursement categories in accordance with the recommendations of the mid-term review, and as detailed in the following table:

Category of Expenditure		**Allocation (US$)**		**% of Financing**	
Current	Revised	Current	Revised	Current	Revised
(1) Works					
(a) SAMSA	(a) SAMSA	2,200,000	1,100,000	100	100
(b) IOC	(b) IOC	0.00	0.00		
(2) Goods (a) SAMSA	(a) SAMSA	1,500,000	1,300,000	100	100
	(b) IOC	0.00	700,000	100	100
(3) Consultant's Services and Audits (a) SAMSA	(a) SAMSA	2,200,000	1,200,000	100	100
(b) IOC	(b) IOC	1,600,000	2,430,000	100	100
(4) Training and Workshops (a) SAMSA	(a) SAMSA	1,200,000	520,000	100	100
(b) IOC	(b) IOC	1,100,000	1,300,000	100	100
(5) Operating Costs (a) SAMSA	(a) SAMSA	600,000	1,200,000	100	100
(b) IOC	(b) IOC	100,000	300,000	100	100
(6) Unallocated		500,000	950,000	100	100
TOTAL		11,000,000	11,000,000		

24. The proposed reallocation was necessary to reflect: (i) the longer project period considering the extension of the closing date to December 31, 2012, already approved under the previous restructuring; (ii) the actual costs of the various works, goods and consulting services; and (iii) the larger than anticipated in-kind contributions from the various participating States and organizations (resulting in for instance lower expenditures under Category 1).

25. **The third restructuring was approved on September 26, 2012:** Based on the same letter as the second restructuring, dated June 17, 2011,[3] in which the Minister of Environment and Water of South Africa requested a reallocation of grant proceeds among the existing disbursement categories in accordance with the recommendations of the mid-term review, a new reallocation, as detailed in the following table, was agreed and implemented:

Category of Expenditure		**Allocation (US$)**		**% of Financing**	
Current	Revised	Current	Revised	Current	Revised
(1) Works					
(a) SAMSA	(a) SAMSA	1,100,000	1,100,000	100	100
(b) IOC	(b) IOC	0.00	0.00		
(2) Goods (a) SAMSA	(a) SAMSA	1,300,000	1,300,000	100	100
	(b) IOC	700,000	1,175,000	100	100
(3) Consultant's Services and Audits (a) SAMSA	(a) SAMSA	1,200,000	1,200,000	100	100
(b) IOC	(b) IOC	2,430,000	2,430,000	100	100
(4) Training and Workshops (a) SAMSA	(a) SAMSA	520,000	520,000	100	100
(b) IOC	(b) IOC	1,300,000	1,300,000	100	100
(5) Operating Costs (a) SAMSA	(a) SAMSA	1,200,000	1,200,000	100	100
(b) IOC	(b) IOC	300,000	300,000	100	100
(6) Unallocated		950,000	475,000	100	100
TOTAL		11,000,000	11,000,000		

26. The change involved a reallocation from the unallocated category to category 2(b) to finance additional goods included in the project description, including oil spill combating equipment kits by the IOC.

2 Key Factors Affecting Implementation and Outcomes

2.1 Project Preparation, Design, and Quality at Entry

(a) Soundness of the background analysis

[3] The formal notice of this second reallocation (third restructuring), in a letter dated September 14, 2012, refers to the formal reallocation request dated June 17, 2011. However, this formal request corresponds to the first reallocation (second restructuring), and does not request the reallocation of funds that has been granted in the second reallocation (third restructuring): $475,000 from "Unallocated" category to "Goods IOC" category. A formal reallocation request has been sent by IOC in a letter dated March 26, 2012, but the subsequent approved reallocation also differs from it.

27. The (FY07) GEF Funded Western Indian Ocean Marine Highway Development and Coastal and Marine Contamination Prevention (P078643) was conceived to support the outcomes of the earlier (FY99) West Indian Ocean Islands Oil Spill Contingency Planning Project (P036037), which was also financed by the GEF and implemented between February 1999 and June 2004. The latter aimed to safeguard the marine and coastal ecosystems of the western Indian Ocean islands (Comoros, Madagascar, Mauritius and Seychelles) from the risks and consequences of oil spills. The FY07 operation was designed to extend the positive results realized in the earlier operation, and build on the lessons learned, and extend oil spill contingency planning to four additional coastal countries (Kenya, Tanzania, Mozambique, and South Africa), to strengthen the regional cooperation, and improve the safety of shipping.

28. The preparation phase of the FY07 project lasted just over 3.5 years from the Concept Review Meeting on October 14, 2003 and Board Approval on May 22, 2007. The length of the preparation phase reflected the considerable difficulties faced in coordinating and building consensus among the countries and other stakeholders. The project preparation phase was funded from a GEF Project Development Fund (PDF) Block B grant[4] of US$700,000. During the preparation phase, there was an appropriate mix of consensus building and collaboration with other multilateral organizations, industry groups representing both the shipping and oil industry, and additional analytical work. However, a review of implementation and outputs revealed a number of limitations relating to the preparation stage of the project, which are discussed below.

(b) Assessment of the project design

29. **Ambitious and complex project design.** The project was very ambitious, involving eight countries, two implementing agencies, with activities in several sectors. It also realized significant benefits in a number of areas including, *inter alia*, enhancing safety of navigation, oil spill response and cooperation in the Western Indian Ocean**.** Hydrographic surveys of the major routes used by vessels in the Mozambique Channel as well as approaches to and sites of several ports were conducted, charts were updated, the Aldabra (Seychelles) lighthouse was rehabilitated, and automatic information systems (AIS) base-stations were installed. Finally, the project fostered substantive regional cooperation, and was considered a success by all stakeholders.

30. Unfortunately, many of these benefits are not reflected in the formal results framework, reflecting a disconnect between objectives and activities at design stage. For example, although the project description refers to a pilot initiative, to test the technical, financial and institutional feasibility of a marine highway in the region, the actual project endeavored to comprehensively address maritime safety and marine pollution across a large region.

31. The result was an overly complex design, with a gap between the components, the results framework, and what could be actually achieved. As one example, the nautical charts produced during the project were originally intended to include information on the environmental conditions and biological resources of the region's waters, including nurseries, major fish migration routes, and environmentally-sensitive areas. Whilst this objective is laudable, inclusion

[4] A PDF Block B grant provides funding for the information gathering necessary to complete full project proposals and the essential supporting documentation. PDF B grants are approved by the GEF Chief Executive Officer.

of this information in nautical charts would require significant additional surveying, over and above that already included in the project, and no additional support was provided to achieve this.

32. There was a similar disconnect between the stated objective and the defined support for a number of other components: The AIS were supposed to be used to transmit real time information on hydrographical and oceanographic, environmental and weather conditions, and the position and movements of ships in the area, but this would have required the provisions of services and interconnection that were not included in the effective design and budget of the project. Similarly, the sub-component on environmentally sensitive areas (ESA) mapping required extensive geographic and environmental data that either did not exist at the time, or was not easily available.

33. **Lack of consistency in project design**. The defined goal and activities differ between the project description, the description of the discrete components and sub-components, and the results framework. This lack of consistency extended, in some cases, to the difference between the project description, and the activities as actually implemented. For example, the project description in the PAD placed fisheries and their monitoring at the center of the project; but there was only one small subcomponent on fisheries, whilst in practice this was not implemented due to redundancies with other projects in the region.[5] Several subcomponents overlapped or were redundant, while others had to be reinterpreted.

34. **Inadequate quality at entry.** Some of the preparatory activities were deferred until implementation stage. Whilst this in itself is not unusual for smaller components in a project, in this case it applied to the design of some of the major components: The project activities related to surveys, aids to navigation (AtoN) and AIS were all started during implementation by an assessment of the situation and the identification of needs. The concomitant to this approach, apart from considerable variation between budget estimates and actual expenditures, was that the subsequent pragmatic decisions undermined the strategic perspective that underpinned the design stage.

35. With hindsight, the project would have been more effective if it had avoided these stand-alone needs assessments of each technology, and designing a more comprehensive strategy to improve safety of navigation in the area, prioritizing actions to be conducted with the limited resources available. In addition, some specific needs were ill-assessed during preparation: Communication links between search and rescue centers actually existed and were functioning well, but support to establish these links was included in the project. Similarly, it was not anticipated that some oil spill equipment provided under the previous project[6] was actually missing or dysfunctional due to lack of maintenance. Finally, the lack of availability of geographic data for the ESA maps was not identified.

[5] Cf. paragraph 85 for more details.
[6] (FY99) West Indian Ocean Islands Oil Spill Contingency Planning Project (P036037), financed by the GEF between February 1999 and June 2004.

(c) Adequacy of government's commitment

36. **The involvement of the eight countries in the preparation phase of this regional project was uneven.** Some technical agencies and focal points complained that they were not aware of the project until after its effectiveness, reflecting in part the long gestation and the change in responsible personnel over that period, and that were not given any means to influence its scope. The project was often endorsed at the government level, without in some cases adequate consultation at a technical level. These points led to a deviation between the project and needs in some cases, also undermining ownership and sustainability, and causing delay.

37. **Institutional responsibilities do not appear to have been fully considered in designing the implementation arrangements**. The delineation of responsibilities for project activities between the maritime and environmental authorities in the participating countries does not appear to have been given sufficient attention during the preparation of the project. Initially, the defined implementation arrangements required the nomination of a unique focal point per country, generally in the maritime sector, under the transport administration. Unfortunately, this led to a downgrading of focus on the environmental activities in the project, and in some cases, engendered tension between the respective line Ministries. This prompted the designation of an additional focal point during implementation, most often in the Ministry of the Environment, to advance the environmental activities and resolve communication issues.

(d) Assessment of risks

38. **The assessment of risks and mitigation measures at appraisal was adequate.** Most risks were identified and appropriate mitigation measures were defined, but not always implemented. The project did however fail to recognize the importance of political buy-in from participating countries in ensuring smooth project beginning, and the consequences of the complexity of the project on implementation and outputs.

2.2 Implementation

39. Progress towards attaining the GEO and Implementation Progress were both rated satisfactory (S) in the Bank's Implementation Status and Results Reports (ISR) throughout the life of the project. This was despite the initial delays and several other key factors that negatively affected implementation and achievement of the Project outcomes.

40. **Initial delays.** The scope and complexity of the project and the shortcomings of the preparatory phase resulted in significant initial implementation delays. The project was approved by the Board of Executive Directors of the World Bank on May 22, 2007, and was declared effective on January 24, 2008, after a slight delay as the Grant Agreement need to be cleared by the President's office in South Africa, before it was signed by the Minister of Environmental Affairs and Tourism on September 21, 2007. The respective project agreements with SAMSA and the IOC were signed on the same date. However, project activities were delayed initially for two main reasons: (i) delays in the appointment of the national coordinators[7] meant that the

[7] The last national coordinator, from Kenya, was appointed in August 2009.

official launch of the project did not take place until February 8-12, 2009 when SAMSA and the IOC organized the First Project Steering Committee meeting[8]; and (ii) delay in trust fund activation which led to a delay in disbursement, although this was anticipated by the Bank team and offset by the use of retroactive financing.

41. **Mid-term Review.** Initially programmed to take place before June 2009, the mid-term review had to be postponed to October 2010 in view of the initial delays. A report, prepared by a consultant to inform the mid-term review, identified a number of design and implementation problems and made suggestions to overcome them before the closing of the project. Three main concerns were highlighted as requiring urgent attention: (i) getting buy-in from the appropriate officials in some of the participating countries; (ii) ensuring that the sustainability question is addressed; and (iii) that the completion of activities are properly concluded and handed over. The mid-term review also suggested extending the project by at least another year and reallocating some of the unspent funds for (a) the development of a regional sensitivity atlas, (b) the information web site, (c) the training of additional maritime lawyers in the region, and (d) the first year of operation of the RCC. Most of these suggestions were taken into account, which led to three different restructurings (cf. below).

42. **Restructurings.** During the five-and-half-year implementation period, and in light of this mid-term review, the project underwent three restructurings, detailed in section 1.2. These restructurings followed the recommendations of the mid-term review by extending the Grant closing, and reallocating unutilized funds from the shipping components to the oil spill and regional cooperation activities. In addition, a late third restructuring reallocated some funds to the purchase of oil spill and Maritime Rescue Coordination Center (MRCC) equipment.

43. However, the mid-term review did not fully address the design flaws and disconnect between the project description and results framework on the one side and the effective implementation of its activities on the other. This was in part a reflection of the difficulty in undertaking a level I restructuring of such a complex project, with so many stakeholders required to come to agreement on restructuring scope and details.

44. **Deviations from original design.** The ambition and complexity of the design led to some deviation in implementation and two components were not implemented (monitoring of fishing activities and evaluation of the pilot phase) while others were adapted (search and rescue, development of a regional database and geographic information system, among others). These deviations are described in section 3.

45. **Interest and involvement of other stakeholders.** The project generated considerable interest which resulted in higher than expected in-kind contribution (surveying vessel and on-board training) from the French hydrographic agency, *Service Hydrographique et Océanographique de la Marine* (*SHOM*), which proposed to survey the route and conducted some training for 60% of what was budgeted. It also caught the interest of the European Space Agency, which offered spatial observation services for a period of six months in 2011 on real time oil spill detection and polluter identification. These services yielded interesting results but were not continued because of their cost and the loss of the satellite.

[8] Some activities started before the official launch of the project.

46. **Exogenous issues affecting implementation.** The growth of piracy in the region had an unfortunate impact on the shipping components of the project. The piracy threat is concentrated along the coast of Somalia, but some attacks have been reported further south and further east. As a consequence, many ships now choose to avoid the Mozambique Channel – on which the project focuses – and substantially extend their route by passing south of Madagascar and Mauritius, east of the Maldives and along the coast of India before heading back to the Gulf of Aden, and vice versa. The pattern of risk to the region's ecosystems has therefore changed, increasing the exposure of the south coast of Madagascar, Mauritius, Rodrigues and the Maldives. Besides, anti-piracy security guards board or alight vessels in Mauritius, making them come closer to the island. Moreover, it was reported that most of the vessels that do ship in the Mozambique Channel now commonly turn their AIS off to avoid revealing their position to pirates.

47. **Slow disbursements.** Disbursements have been slow and 31% of the Grant has not been used at project closing (US$3.41 million out of US$11.0 million). This in part due to higher than anticipated in-kind contributions from participating countries (South Africa on the AIS activity) and partners (*SHOM* on the surveying), and to incomplete or redesigned activities. It is also a consequence of large uncertainties around the appraisal estimates of many activities, reflecting insufficient knowledge of the cost and scope of several activities at preparation. More details are given in section 3.3 and Annex 1.[9]

2.3 Monitoring and Evaluation (M&E)

48. **M&E Design.** The monitoring and evaluation framework comprised 6 key performance and 17 intermediate indicators. Although most indicators were straightforward, easy to measure and a direct translation of the activity they were monitoring, some were not entirely reflective of the activities that they were designed to measure.[10] As a result, despite the considerable progress made and the substantive benefits realized during implementation, a number of the objectives were not met by the end of the project.

49. **M&E Implementation.** Excepting the above, the monitoring and evaluation framework was implemented adequately.

50. **M&E Utilization.** The M&E framework has little usefulness beyond the project: all the exploitable indicators were direct translations of an activity and their relevance ends with the sub-component they were monitoring.

[9] To be confirmed once the final interim financial reports have been received from the Implementing Agencies.

[10] For instance:

- The first PDO outcome indicator ("Number of passages of vessels traveling through the region using the marine highway and its electronic charts for navigation") is difficult to measure, has not been measured and its target values were the same as the first GEO outcome indicator, relating to the implementation of the marine highway;
- The target values second intermediate result indicator ("Charts and publications maintained and updated") do not reflect its meaning its objective, as they account for the number of charts published and are the same as the first intermediate result indicator.

2.4 Safeguard and Fiduciary Compliance

51. **Safeguard.** No safeguard policies were triggered during this project; the safeguard screening category was S2 (no safeguard issues) and the environmental screening category was C (no adverse environmental impact).

52. **Financial Management**. The two implementing agencies maintained adequate financial management (FM) arrangements. There were no major FM issues. The two implementing agencies were adequately staffed for carrying out the FM functions at all times. FM was handled by qualified and experienced finance officers and finance assistants in SAMSA and IOC. The interim financial reports submitted to and reviewed by the Bank during implementation were found satisfactory, in a format acceptable to the Bank, and with minor or no issues identified. Acceptable annual audit reports were received; no major internal control weaknesses were reported and they identified ineligible expenses related to minor value added tax payments which were duly refunded.

53. **Procurement.** There were no major procurement issues during the implementation period of the project. The management of procurement activities was the responsibility of SAMSA and IOC for their respective components. They were adequately staffed with two full time procurement staff from SAMSA and IOC and were supplemented by external experienced consultants (firm or individuals) on an as-needed basis. The procurement of works, goods and consulting services was carried out in accordance with the World Bank Procurement Guidelines. Procurement of all goods and works contracts was done using National Competitive Bidding, International Competitive Bidding and Shopping.

2.5 Post-completion Operation/Next Phase

54. **Some activities of the project were not completed by project closure**. The installation of the AIS equipment at Ponta Zavora, Ilha de Moçambique and Maputo in Mozambique and the rehabilitation of the lighthouse at Ponta Zavora were not completed by project closing because of custom delays.[11] Similarly, the national validation of several National Oil Spill Contingency Plans (NOSCP) is still pending and Madagascar has not signed the Indian Ocean Memorandum of Understanding (IOMOU) on port state control. Although it was not a requirement of the project, the marine highway has not been recognized by the IMO. The Government of South Africa is leading the process to have it endorsed at the next IMO session (June 2013) (cf. section 3.1 below). Of greater importance, the RCC is not operational at project closing due to internal policy processes in South Africa. Being designed as the cornerstone of post-completion operations, this is of significant concern. However, South Africa is aware of the situation and has assured to operationalize the Center by mid-2013. The other participating countries pledged to sign the agreement subsequently.

55. The question of a follow-on operation has been raised by most of, if not all, the participating states and agencies. There is recognition of the benefits of the numerous initiatives introduced by the project, and a perception that whilst awareness on important issues was raised, and a considerable start was made, there is need for further support to realize the full potential

[11] Mozambican authorities advised in April 2013 that they have completed the lighthouse and that funding for the installation of the AIS base stations is currently being secured by the IMO.

benefits. Areas considered to need further attention are continuing to improve safety of navigation, building further capacity to combat oil spills, which despite the project remains inconsistent across the region, and effective regional cooperation.

3 Assessment of Outcomes

3.1 Relevance of Objectives, Design, and Implementation

(a) Relevance of Objectives

56. The overall outcome objective of the project to protect regional marine and coastal ecosystems remains very relevant at project closing: the most recent CASs and interim strategy motes of the participating countries12 all insist on the importance of protecting coastal and marine ecosystems and ensuring their sustainable management for poverty alleviation. More broadly, the importance of the Western Indian Ocean ecosystems as global public goods has long been recognized and their protection is still on the agenda of the international community. Marine and coastal biodiversity as a whole is given increased attention, be it through the United Nations Convention on Biological Diversity and its Aichi biodiversity targets for 2020, or the numerous initiatives that have emerged in the recent years to promote a global protection of the oceans. The Western Indian Ocean islands and seas are themselves recognized as one of the main biodiversity hotspots on the planet.

57. As described in the PAD, increasing the safety of navigation and the capacity of the riparian countries to respond to noxious spills is essentially a means to contribute to the protection of these ecosystems. In a context of growing and changing maritime traffic, as well as future offshore oil and gas production, the need to develop substantive capacity in preventing and managing spills therefore remains a necessity to coastal and marine biodiversity protection. Finally, the regional integration approach promoted by the project remains a key objective of the participating countries' CASs or interim strategy notes.

(b) Relevance of Design

58. As detailed in section 2.1, the design of the project, from the perspective of the PDOs GEOs and components, lacked clarity and consistency. It was also very complex and ambitious, involving eight diverse countries in comprehensively addressing major issues in two different sectors.

59. On the substance, the oil spill response activities (components B and C) benefited from the lessons learned from the previous project[13] and their design was suitable. Furthermore, marine pollution is a complex threat to address that requires regional coordination and the project adequately integrated four relevant coastal countries to the regional initiative. It also adequately included the widening of the IOMOU on port state control to Madagascar and Comoros.

[12] Comoros (2010), Kenya (2010), Madagascar (2012), Mauritius (2006), Mozambique (2012), Tanzania (2011), Seychelles (2012) and South Africa (2007)

[13] (FY99) West Indian Ocean Islands Oil Spill Contingency Planning Project (P036037), financed by the GEF between February 1999 and June 2004.

60. However, based on current knowledge, the relevance of the marine highway concept to increase the safety and efficiency of navigation in the Mozambique Channel is questionable. Indeed, marine highways, formally named Traffic Separation Schemes, are selected routes supported by modern navigation aids and close monitoring, organizing intense traffic through difficult passages in two distinct lanes to avoid collisions. Such schemes are for instance found in the English Channel, Singapore and Cape Horn. The Mozambique Channel is not appropriate for such as scheme for two reasons: it is wide (400 km wide at the narrowest point), and the density of the traffic is relatively low.

61. The limited relevance of such a design was gradually recognized during preparation and the project's activities under the navigation safety component were changed to focus on enhancing the safety of navigation in specific areas of the Mozambique Channel, which was both necessary and worthwhile. Unfortunately, the project kept its "marine highway" title and description, engendering a number of misunderstandings amongst stakeholders, including the participating countries themselves.

62. Furthermore, the rationale for including a component on monitoring of fishing activities in this project is debatable, and has been questioned during implementation.[14]

(c) Relevance of Implementation

63. Implementation arrangements were appropriately chosen to facilitate implementation of the components. The dual-implementing-agencies configuration was a risk but proved worth taking and yielded very positive results. To some extent, the implementation stage has allowed compensating for the shortcomings of the design and preparation phase.

3.2 Achievement of Project Development Objectives and Global Environmental Objectives

64. The project achieved significant success in enhancing safety of navigation, oil spill response and cooperation in the Western Indian Ocean. Hydrographic surveys of the major routes used by vessels in the Mozambique Channel as well as approaches to and sites of several ports were conducted, charts were updated, the Aldabra (Seychelles) lighthouse was rehabilitated, AIS base-stations were installed. This has undoubtedly enhanced the safety of navigation in these specific areas and to some extent in the region. The project provided very valuable support to all participating countries in implementing the provisions of international conventions, including and most importantly national oil spill contingency plans, reinforced by substantial training and equipment. Furthermore, the project has contributed to raise technical awareness of the importance of the coastal resources of the participating countries by providing or updating ESA maps and capacity building on ecosystems valuation. Finally, the project greatly fostered regional cooperation on the subject. All participating countries and stakeholders emphasized its successes.

65. **The project was not successful in achieving the PDOs and GEOs**. The project had 6 GEO and PDO outcome indicators: 1 indicator has been achieved, 4 have not and 1 has not been monitored. The project had 17 intermediate indicators: 7 (41 percent) have been achieved, while

[14] In particular, a letter from the UNDP dated April 5, 2005 remarks that the project does not note the existence of the Southwest Indian Ocean Fisheries Project (SWIOFP), funded by the GEF and implemented by the World Bank.

10 have not. This is a reflection of the design of these objectives themselves and the scope of the project rather than the realized achievements, which are considerable. If the PDO or GEO had been more specific to the actual interventions, and the outcome and intermediate indicators more realistic, project outputs would have been more in line with the expected outcomes.

66. Since the PDOs and GEOs as stated in the PAD lack clarity, consistency, sometimes overlap and do not faithfully reflect the substantive progress that has been achieved within the project, the choice has been made in this Implementation Completion and Results Report (ICR) to use intended objectives, inferred from the design and the effective implementation:

- *Objective 1:* Establish a demonstration marine highway to guide ships around environmentally sensitive areas and through selected busy sea lanes.
- *Objective 2:* Strengthen the capacity of countries to respond to oil or chemical spill emergencies in the region.
- *Objective 3:* Organize regional cooperation on oil spill response and safety of navigation.
- *Stand-alone activities:* Economic valuation of ecosystems; Coordination with other (GEF-funded) projects; Supporting monitoring of fishing activities.

Annex 4 reconciles the objectives used in this report with the PDOs and GEOs listed in the PAD and the Legal Documents and lists the outputs per component with more precision. What follows is a brief description of the contribution of outputs to achieving the objectives of the project.

Objective 1: *Establish a demonstration marine highway to guide ships around environmentally sensitive areas and through selected busy sea lanes.*

67. The establishment of the marine highway involved several distinct components, the ultimate goal of which was to enhance the safety of navigation in the region. Hydrographic surveys were conducted along the busiest route in the Mozambique Channel and in 5 ports and their approaches.[15] The corresponding electronic nautical charts have been published and are automatically distributed to the industry. The Aldabra lighthouse in Seychelles has been rehabilitated; the rehabilitation of a second lighthouse at Ponta Zavora (Mozambique) could not be completed before the end of the project. Four AIS base stations were installed to monitor close-range traffic in specific sites.[16] Finally, the MRCC in Mauritius was upgraded through the installation of Global Maritime Distress and Safety System (GMDSS) equipment. Comprehensive training was provided under each of these activities. These activities have made a considerable contribution to starting to improve navigation in the region, thus contributing to the lowering of the risk of oil spills from collisions and groundings.

68. Although it was not included in the initial project design, the participating countries and implementing agencies aimed at having the surveyed and charted route officially endorsed by the IMO as a recommended route, to ensure safe passage of vessels in the Mozambique Channel.

[15] Mahajanga and Toamasina (Madagascar), Anjouan (Comoros), Maputo (Mozambique), Zanzibar (Tanzania).

[16] AIS base stations have been installed in Moroni (Comoros), Mombasa (Kenya), Zanzibar (Tanzania) and Mahajanga (Madagascar), with a link to Antananarivo (Madagascar); two have also been installed on Coast Guards vessels in Seychelles. The typical range of AIS station is approximately 100 km. However, the planned installation of two base stations and one monitoring station in Mozambique could not be completed due to important delays in clearing the equipment at customs.

However, the IMO decided in June 2012 not to officially recognize it. This was the result of a mix of political and technical reasons, including the fact that it might not be necessary to concentrate the traffic along two narrow lanes in such a wide channel, without the means to monitor it and in a context of piracy. As long as the route is not recognized by the IMO, it remains voluntary for users. The Republic of South Africa is seeking official recognition in June 2013.

69. **Main challenges.** The implementation of the marine highway activities suffered from insufficient knowledge of conditions on the sites chosen to install AIS base stations and AtoN. This resulted in unexpected delays and additional costs to the project. In Madagascar, the location identified to receive the equipment was not suitable, and a link to Antananarivo had to be installed. Mozambique had problems in clearing goods through its customs causing severe delays in implementation and jeopardizing the rehabilitation of the lighthouse and installation of AIS base stations in Ponta Zavora and Ilha de Moçambique, and monitoring station in Maputo, which were not completed at the end of the project. The sustainability of some of the training remains questionable, as trainees frequently did not remain in the same posts, or left the public administration. Finally, the search and rescue activity had to be reconfigured at the start of implementation as the communication links between the MRCCs of the region and existing regional cooperation on search and rescue were of very good quality.

Objective 2: ***Strengthen the capacity of countries to respond to oil or chemical spill emergencies in the region.***

70. The set of activities under this objective was based on the previous GEF funded project,[17] which supported Madagascar, Comoros, Seychelles and Mauritius in drafting first NOSCPs. Under this new project, these four countries were therefore more advanced than the others, for which the subject was new (with the exception of South Africa). The activity benefited from the earlier experience of the Indian Ocean Commission, which was the implementing agency of the previous project, and substantial work has been done to create new or upgrade existing NOSCPs,[18] and design site-specific oil spill contingency plans around ports. Tabletop and full-scale exercises were also conducted in each of the participating countries.[19] The recognition during the course of the project that some countries did not have the necessary equipment to combat oil spills, led to a reallocation of funds to finance equipment purchase for Tanzania, Mozambique, Comoros and Mauritius. The indicator for this activity was the validation of the NOSCPs but at project close, whilst all NOSCPs have been completed[20] and training organized, four out of eight official validations remain pending.

71. ESA maps have been produced to support the NOSCPs. These maps detail coastal ecosystems and sensitivities and have been integrated in the NOSCPs to serve as tactical maps in case of an oil spill. ESA maps can also serve other purposes in other contexts; for example, some

[17] (FY99) West Indian Ocean Islands Oil Spill Contingency Planning Project (P036037), financed by the GEF between February 1999 and June 2004.
[18] It should be noted that NOSCPs are an obligation under the OPRC Convention, to which all the countries of the project are party.
[19] Activities in Comoros were implemented through an agreement the country has with France (La Réunion). South Africa was not a beneficiary of the exercises.
[20] With the singular exception of the Tanzanian NOSCP.

countries employed them as a planning tool in other environmental projects. The development of these maps was constrained by the lack of available data in some countries. As a result, precise 'operational' maps that describe the necessary logistics in an oil spill situation remain under development at project closing.

72. Additional activities were also conducted as part of these activities, on the initiative of the implementing agency: the countries drafted dispersant policies, which will eventually be integrated to the NOSCPs; they have also engaged in the area of hazardous and noxious substances (HNS), with a view to drafting specific policies in line with the HNS protocol to the OPRC convention.

73. **Main challenges.** Despite the concrete achievements in creating and/or updating the NOSCPs, these plans are not static and sustaining their usefulness requires the appropriate resources to be maintained in a state of readiness, which involves regular training, including simulations of risk events with all stakeholders and ideally once per year, and adequate resources. Currently, there is concern that the current response capacity will be sustained in all the participating countries, particularly where ownership and commitment was found to be lagging during implementation. Some countries took the opportunity to update parts of their maritime law or to launch a national effort on disaster preparedness, but others struggled to affirm the capacity of the national competent authority to take the necessary lead in the response. The development of ESA maps is constrained by the fact that several stakeholders are waiting for compensation for spending time on the activity or sharing the geographic data.

Objective 3: ***Organize regional cooperation on oil spill response and safety of navigation.***

74. One of the major goals of the project was to establish cooperation between the eight participating countries on oil spill response. This cooperation had three pillars: The first pillar was a regional agreement that ensures cooperation among the countries in case of major oil spills for which the affected country does not have the capacity to respond on its own. It has been signed by all eight participating countries; although included in the cooperation effort, La Réunion (France) had not signed it as of project close.[21] A regional oil spill contingency plan (ROSCP) has also been developed, as a second pillar, in order to define roles and responsibilities in case of a trans-boundary spill. The ROSCP has been signed by all eight participating countries and is now operational. It has however not been tested in a simulation exercise.

75. The third pillar is the RCC, which was designed to be the keystone of this objective and of the project as a whole, but remained to be established at project closing. The intention is for the RCC to serve as a regional platform to "coordinate regional actions, to monitor region-wide environmental conditions and causes of degradation and damage, and to eventually operate the marine highway" (PAD, p. 42). The functional establishment of the RCC, designed as one of the key outputs of the project to ensure sustainability of its outcomes, is critical. Ideally, the RCC would have been operational one year before the end of the project to allow for necessary adjustments, and a work program and budget were defined for its first year of operation

[21] France participated in the project as a partner, through La Réunion island. It was involved in several components, as a major stakeholder in the Western Indian Ocean. It would be expected to play a significant role in a regional oil spill prevention scheme.

(originally planned to be2012). However, SAMSA has been selected to host the RCC but obtaining the necessary domestic approvals has meant that the signing of the Host Country Agreement had not taken place by project close. This is expected in 2013.

76. Two other measures to enhance regional cooperation, although not directly on oil spill response or safety of navigation, were conducted: The project supported countries in ratifying relevant IMO conventions and worked with Comoros and Madagascar to sign the Indian Ocean Memorandum of Understanding on port state control. Although Comoros is now a party to the IOMOU, Madagascar had not signed it by project close, mainly because of the current political situation in the country. The PAD also mentioned ensuring domestication of ratified IMO conventions, but beyond the oil spill contingency plans and the training of a few maritime lawyers, the activities conducted under this aspect have been minimal.

77. **Main challenges.** At the end of the project, most stakeholders were explicit in the need to organize a regional response capacity to combat major oil spills; at the same time they expressed concern that the agreements are, for the moment, mainly theoretical and should be put into practice. Unfortunately, there has been no opportunity to test the ROSCP and the evidence from the only event that occurred during the project major enough to require regional cooperation was inconclusive.[22] Furthermore, the issue of compatibility between oil spill equipment of the countries of the region was not addressed in the project; with existing incompatibilities forming a technical barrier to cooperation during major spills.

78. The participating countries have not been consistently responsive during the implementation of the regional cooperation which led to delay. In this context, and based on the experience of a similar regional center in the Mediterranean,[23] SAMSA decided not to ask for financial contributions from the other countries to operate the RCC. This decision is both pragmatic, but also reflects the commitment of South Africa and SAMSA in particular towards the RCC.

79. It should be noted that this is the second attempt to establish a regional center on oil spill: the previous GEF project established such a center in Madagascar, which is no longer functioning[24]. Whether the lessons from the previous experience were reflected in the design of the new is unclear, but the commitment of South Africa and SAMSA will undoubtedly ensure sustainability in some form.

Stand-alone activity: *Economic valuation of ecosystems.*

80. Alongside the three previous objectives described above, the project developed an ecosystems valuation activity, which organized two regional workshops and established national

[22] In August 2011, a Panamian cargo ship "Angel 1" grounded on a coral reef off Pointe d'Esny, to the South East of Mauritius. To prevent a large oil-spill, the country decided to deploy the contingency plan. However, it did not have the capacity to respond and address unilaterally, and could not call on the other countries of the region to provide the required assistance. It was instead assisted by India and Sri Lanka.

[23] The Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC) assists the Mediterranean coastal States in ratifying, transposing, implementing and enforcing international maritime conventions related to the prevention of, preparedness for and response to marine pollution from ships.

[24] The Government of Madagascar have expressed their interest in reviving the previous center by hosting the RCC.

working groups that developed case studies in 5 of the 8 participating countries.[25] The end product is a report that describes different methodologies available to conduct economic valuation of ecosystems.

81. The activity contributed to raising awareness on the value of coastal ecosystems in the region, but did not achieve the goal described in the PAD of developing an economic valuation methodology to "enable governments to carry out baseline studies and to identify the key environmental resources of the region and assign indicative values to the resources". It seems clear that the objectives set for this activity were too ambitious, compared with the resources available and the lack of experience in the region on this technical subject. The few case studies and the final report produced are not comprehensive enough to be used to influence political and investment decisions, or to support potential compensation claims after an oil spill. Instead, the project could not do much more than raise awareness and organize the necessary working groups at the national level. Stakeholders expressed concerns that neither the working groups nor the awareness will be sustained after project closing.

82. **Main challenges.** Mozambique, South Africa and Seychelles did not participate in the activity; one of the reasons advanced is the lack of dedicated financial resources. Furthermore, although the task was very ambitious, national working groups had insufficient support from the project consultants on this activity and had to rely almost exclusively on scarce national expertise to conduct the exercise.

Stand-alone activity: *Coordination with other (GEF-funded) projects.*

83. Since the beginning the project internalized the importance of coordinating with similar projects in the region. Its component D3 focuses explicitly on collaboration with GEF-funded projects, including the Agulhas and Somali Current Large Marine Ecosystems Project (ASCLME) and Southwest Indian Ocean Fisheries Project (SWIOFP). Coordination with these projects, implemented respectively by the United Nations Development Programme and the World Bank, has proven difficult on the ground and stakeholders expressed some frustration regarding the lack of response. However, the exchange of information improved towards the end of the project, mainly in the form of cross-participation in steering committees and contribution to the GEF International Waters website.[26] A comprehensive website[27] has also been created for the project, and its maintenance should be handed over to the RCC once operational.

84. Beside GEF interventions, this regional project was implemented in a context of multiple related donor-funded projects, including by the European Union and the World Bank. Constructive coordination with these projects has been considerably enhanced by two main factors: First, because IOC serves as a regional focal point for environmental projects of other donors, it has been able to orchestrate their implementation in a constructive manner. Second, this scheme has been reproduced at the national level, with some focal points serving as hubs for different, and sometimes all, environmental projects in one country. The National Environmental Management Council in Tanzania, for instance, was able to incorporate the activities within a

[25] Mozambique, South Africa and Seychelles did not participate in this activity.
[26] iwlearn.net.
[27] wiomprcc-ioc.org.

broader framework of donor-funded environmental activities, avoiding duplication of tasks and breaking the isolation that these projects sometimes suffer from.

Stand-alone and non-implemented activity: *Supporting monitoring of fishing activities*.

85. The description of the project in the PAD included support to the monitoring of fishing activities, as overfishing is another major threat to the environmental and economic health of the region. Component D2 specifically targeted the "development of an action plan for fisheries monitoring", as well as the "implementation of its main recommendations, assuming finance is available and no other organization or project are able to finance these". However, during implementation it was realized that similar activities were adequately conducted by other projects in the region.[28] It was therefore decided to not implement this sub-component.

3.3 Efficiency

86. Consistent with the requirements for GEF-supported projects, the PAD included an incremental cost analysis, rather than the estimation of a net present value or economic rate of return in a cost-benefit analysis. The incremental cost principle of the GEF is usually understood as the additional costs associated with transforming a project with national/local benefits into one with global environmental benefits as well. It argues that without the GEF alternative (i.e. the project), the participating countries would most likely not have undertaken the activities related to the development of the marine highway, the widening of the regional IOMOU on port state control and strengthening capacity to implement it, and regional oil spill cooperation.

87. The incremental cost of the GEF alternative was estimated at US$24.4 million, and the baseline cost at US$1.6 million; the GEF provided a grant of US$11 million out of which only US$7.59 million were disbursed. The difference reflecting higher contributions from partners and incomplete or redesigned activities (cf. Annex 1). It is clear in retrospect that most of the activities funded by the GEF under this project would not have been implemented without it – at least not in the short to medium term –, they are also much needed and yield considerable global environmental benefits. Regional cooperation would not have been progressed without the project.

88. The outputs of the project also significantly benefited the shipping and oil and gas industries. This has been confirmed by the interest they showed during the preparation and implementation phases, and has been used by Madagascar to finance its oil spill center through a levy on oil imports in the country. These industries are therefore a potential source for financing the marine highway and the oil spill preparedness in the region, and might be more efficiently integrated in the future.

[28] *PRSP* (*Plan Régional de Surveillance des Pêches* – Regional Fisheries Monitoring Plan), funded by the EU between 2007 and 2011; SWIOFP (South West Indian Ocean Fisheries Project), funded by the GEF between 2007 and 2013; AMESD (African Monitoring of the Environment for Sustainable Development), funded by the EU and the African Union between 2007 and 2013; SmartFish, funded by the EU between 2011 and 2013.

3.4 Justification of Overall Outcome Rating

89. **The Overall Outcome rating is *Moderately Unsatisfactory*** for the following reasons. As noted above the relevance of the design is questionable and there were severe shortcomings at preparation, over-ambitious objectives, and underprepared activities with concerns about sustainability prevalent in some cases. In addition, the outcomes of the project are below the level set in the PAD: the project completed only 1 of 6 GEOs and PDOs.

90. Nonetheless, the project objectives are still highly relevant to the national and global priorities and, set aside the results framework as defined in the PAD, the project has contributed considerably to important and much needed progress in the region on maritime safety and oil spill prevention: The survey of the route made navigation in the Mozambique Channel safer, the navigational risks in approaching key ports and sites are reduced thanks to the more detailed site-specific surveys and the AIS base stations, the Aldabra World Heritage Site's integrity will be enhanced by the new lighthouse, the capacity of countries to respond to oil and chemical spills is undoubtedly improved and regional cooperation on all these issues has been initiated and should be reinforced soon. Overall, the shortcomings at preparation stage and in the design of the project and its results framework wounded the project at birth, and justify the proposed rating.

3.5 Overarching Themes, Other Outcomes and Impacts

(a) Poverty Impacts, Gender Aspects, and Social Development

91. The poverty impact of the project is indirect and long-term, but nonetheless significant; by reducing the risks of oil spill and severe pollution of ecosystems people rely on, it prevents important losses of revenues and livelihoods for some of the poorest communities in the region.

(b) Institutional Change/Strengthening

92. One of the key outcomes of the project is the institutional strengthening on oil spill response, which also triggered some broader consideration of similar disaster risk management. For instance, the consolidation of the oil spill contingency plan in Mauritius and recent events led the country to consider creating a national disaster center that would be in charge of responding to a broader range of disasters. Some countries also took the opportunity of the project to revise large portions of their maritime law. Many stakeholders also stressed the contribution of the project in bridging the cooperation gap between coastal and island countries on such issues, as well as breaking the language barrier.

(c) Other Unintended Outcomes and Impacts (positive and negative):

93. As described in section 2.2, the project was selected as a pilot by a European Space Agency / World Bank partnership, which purpose was to mainstream the use of satellite data in the Bank's lending operations. The European Space Agency offered satellite imagery that was used to detect oil spills in real time and identify polluters, which was a very positive development offering a step change in detecting and responding to oil spills. The pilot project yielded some very interesting results, but unfortunately was not continued due to a lack of funding and the loss of the satellite.

4 Assessment of Risk to Global Environment Outcome

94. The Risk to Development Outcomes rating is ***High*** for the following reasons.

95. **Piracy** in the region poses several risks to the development outcomes of the project, as described earlier. It has redirected traffic from the Mozambique Channel to a more eastern route, reducing the utilization of the highway in the Channel and increasing risks elsewhere. It has also decreased safety in the Channel as many ships frequently turn off their AIS communication when traveling in pirate zones, increasing the risks of collision. In that context, a densification of traffic along a recommended route might yield the opposite result than the one that was intended, i.e. increasing safety.

96. The **sustainability** of the previous project[29] was rated as likely, and its ICR listed as a lesson learned that "obtaining government commitment during project preparation to specific arrangements for institutional and financial sustainability, and continuing to focus on the issue during implementation helps to ensure that project investments will be sustained after the project closes".[30] This lesson was included in the design of the project, and the participating governments were required to commit by mid-term review to establishing mechanisms to sustain the outputs of the project.

97. The mid-term review report (October 31, 2010) however stressed that it had no information on the establishment of such mechanisms and operational manuals for the handover of the various activities were missing. It insisted on the need for immediate action to have Governments commit to providing mechanisms for sustainability, and warned that the GEF funding activities that should have been financed by the counterpart would undermine sustainability further.

98. At the end of the project, sustainability remains a significant concern. Madagascar, Mauritius and South Africa have established concrete mechanisms to integrate the project's activities in their operations and ensure sustainability of their oil spill prevention efforts. Mozambique has indicated it has signed an agreement with a private company to provide assistance in case of oil spills. On other activities or for other countries, the commitment to such mechanisms (including budgeting) is lacking, or the information was not transmitted. Sustainability remains problematic at many levels of the project's outputs and the main areas of concern are the following:

- Different types of equipment have been provided through the project: AIS antennas and monitoring devices, oil spill and GMDSS equipment. Several stakeholders explained that they lacked the capacity to maintain, and sometimes operate, store and handle the equipment. Past experiences also reveal that 'free' and donor-funded equipment are not always given appropriate consideration, reducing their lifetime. Most of the equipment provided under the West Indian Ocean Islands Oil Spill Contingency Planning Project was unusable or untraceable a few years after project closing, and the lesson seems not to have been learned.

[29] (FY99) West Indian Ocean Islands Oil Spill Contingency Planning Project (P036037), financed by the GEF between February 1999 and June 2004.
[30] ICR of the project P036037 (report No 30889), December 15, 2004, p.14.

- The maintenance of lighthouses might also prove problematic, as no mechanisms are in place to ensure sustainability. Past experiences also show that AtoN suffer from a lack of maintenance in the region.
- To be efficient, an oil spill response strategy requires regular and comprehensive *oil spill exercises*, including at the regional level in the case of the ROSCP. Once again, the mechanisms to ensure such regular exercises are not in place in several countries, which undermines the outcomes of the oil spill response activity of the project.
- Similarly, the future regular updates of *nautical charts* and *ESA maps*, although stated in the PAD, are not guaranteed.
- The *economic valuation of ecosystems* will most likely not be pursued, as the activity did not reach a level of maturity that could allow for regular usage of such technique. The project served more as an eye-opener and all the stakeholders pushed for a follow-on activity to pursue the effort.
- The *RCC* should have been the cornerstone of the sustainability arrangements planned in the project, keeping its momentum by organizing national and regional activities to update components of the project and ensure collection and dissemination of information. South Africa is committed to operationalize the RCC by the end of the year, too avoid decreased momentum and jeopardized efficiency due to the delay.
- Training is a primary component of the project, and has been developed in part to ensure sustainability of the rest of the project. Lessons have also been learned from the previous West Indian Ocean Islands Oil Spill Contingency Planning Project, after which many trained staff left their position. In this current project, trainees have been asked to commit to remain in their position for a certain number of years to avoid such situation. However, other sustainability issues arise from training: Some students were indeed trained on equipment they did not have or for tasks they were not in the position to undertake, and many stakeholders expressed the need to have more and regular training on these issues in the future. They would also have liked having more national and regional experts trained and involved in the project, which could have enhanced longevity of some activities.

99. The project therefore suffers from a significant lack of sustainability of its outcomes, which can be traced to several causes. A first cause stems from preparation and implementation *per se*: Although adequate arrangements were planned in the PAD, taking into account the lessons from the previous West Indian Ocean Islands Oil Spill Contingency Planning Project, it is unclear whether these arrangements were given enough weight in the discussions with the governments. Initial delays also led to postponing most of the activities of the project, and the implementation of these arrangements has been pushed off the table in the process. Implementation incentives from the donor side and along the project chain focus more on disbursement and less on sustainability, which might further reduce its weight.

100. A second cause is the deficit of ownership that the project activities suffered from. Many governments of the participating countries considered the type of activities as essentially driven by the donor community. This feeling has been reinforced by the lack of involvement of most technical agencies in the design and the preparation of the project, which many initially saw as an external, top-down burden. Furthermore, in resource-limited contexts, the lack of consideration given to political engagement resulted in the project being given low priority. As a

consequence, some national coordinators were appointed late and counterpart funding to the national implementation unit has been either slow or inexistent in some countries; this led to inefficiencies and lack of motivation. The sustainability of the project outcomes has been hampered by this low ownership of its activities.

5 Assessment of Bank and Borrower Performance

5.1 Bank

(a) Bank Performance in Ensuring Quality at Entry

101. The Bank performance in ensuring quality at entry is rated ***Moderately Unsatisfactory*** for the following reasons.

102. The project addressed critical threats to the exceptional marine and coastal ecosystems of the region, and made an effort to cover many aspects of navigation safety and pollution prevention that were lacking attention. It also adopted a necessary but innovative regional approach. Its long preparation phase involved many stakeholders from the international community, the private sector and national governments. The choice of two implementing agencies was ambitious and yielded many positive results, although it sometimes reinforced an impression of two distinct projects.

103. However, as previously mentioned, the design and preparation phase suffered from major shortcomings that hindered the implementation of the project and the delivery of outputs. The design of the project lacked clarity, in particular in the concept of the marine highway, and in the organization of and distinction between activities. This lack of clarity is also found in the numerous PDOs and GEOs, which choice does not reflect the actual implementation of the activities, placing emphasis on minor (e.g. port state control) or unimplemented components (e.g. evaluation of the pilot phase, monitoring of fisheries), misrepresenting activities (e.g. the oil spill contingency plans are only mentioned for four of the eight countries that took part in this activity), and understating main parts of the project (e.g. regional coordination). There are notable inconsistencies between PDOs and GEOs stated in different sections of the PAD, the Results Framework and the Legal Agreements.

104. The project was also too ambitious in comparison with its means and what it eventually implemented: The project scope was too broad, with activities sometimes not related to the rest of the project, and most of the activities were too complex and wide-ranging to be covered simultaneously in a project of such a size. For instance, the project description in the PAD largely covers the monitoring of fishing activities, to which it devotes a sub-component. However, nothing happened under the project on that aspect, in part because it was an entire other subject which several other projects addressed in the region. In parallel, and partly consequently, it lacked the holistic approach that was necessary to optimize the efficiency of its engagement. In the end, the project was complex, involving many countries and several counterparts in each country, as well as many activities that were conducted simultaneously. Therefore, and despite adequate time given to the preparation of this project, the right balance between ambition and innovation on one side, and pragmatism and efficiency on the other, was not found.

105. Furthermore, it appears that the Bank's effort in ensuring early political buy-in and involving national technical agencies in the design of the project was uneven among participating countries. As stated earlier, some countries barely signed the initial Memorandum of Understanding and did not circulate the information nor promoted the project internally. Besides, technical agencies which were going to implement the project have not always been given adequate voice in the preparation phase. Both these aspects resulted in low ownership.

(b) Quality of Supervision

106. The Bank performance in ensuring quality of supervision is rated ***Moderately Satisfactory*** for the following reasons:

107. Despite major early delays that stemmed from the preparation phase, most project activities achieved important results in the short timeframe that was available. The regional aspect and the complexity of the project, with eight participating countries implementing many different activities, was a challenge for the supervision, which however managed to maintain regular oversight on these activities through the closer monitoring from the regional and sub-regional implementing units.

108. The Bank could have been more proactive however to reduce early implementation delays, by setting-up kick off missions with the implementing agencies in the countries that lagged behind, or by moving the role of formal task management to the field earlier. This could have hastened the process of ensuring buy-in, both at the government level and technical agencies, as well as promoting communication on the project between the different entities involved. It could also have employed its convening power to facilitate the operationalization of the RCC in South Africa.

109. The opportunity of the mid-term review to restructure the project was not fully realized by the Bank. Indeed, the team could have recognized the lack of relevance of the PDOs/GEOs and adjust components and indicators to align them with the realities of implementation. Instead, the restructurings were minimal and could not avoid the final gap between the project's outputs and its formal objectives. As explained in section 2.2, the potential complexity of a level I restructuring in the multi-country, multi-implementing agency setting of the project might account for this missed opportunity. Besides, the Bank did not fully take into consideration the recommendations of the mid-term review, particularly on redirecting attention towards sustainability efforts.

110. Project implementation progress was adequately reported, although some of the project reports lacked clarity and continuity in the description of the activities. Some shortcomings were difficult to trace to resolution.

(c) Justification of Rating for Overall Bank Performance:

111. Bank overall performance is rated ***Moderately Unsatisfactory*** consistent with the evaluation of each section above.

5.2 Borrower Performance

(a) Borrower and other Participating Governments Performance:

112. The Borrower was the Republic of South Africa, who coordinated the commitment and implementation responsibilities amongst all participating countries and implementing agencies. The Borrower and Participating Governments performance is rated ***Moderately Unsatisfactory*** for the following reasons.

113. The Participating Governments performance varied widely between countries. On the subjects of ownership, commitment to achieving development objectives, financial contribution, appointment of key staff (including national coordinators), timely resolution of implementation issues etc., countries have performed very differently.[31] While some countries struggled with difficult political contexts and relied more on exterior support, others were able to integrate the activities of the project in their national initiatives. One of the strength of this regional project is to have been able to cluster such a diverse array of countries and use this to support development in the least performing.

114. As stated earlier, all the participating countries faced the difficulty of communication between the transport and the environment ministries and agencies. This has slowed the implementation of the project, reduced its efficiency and required to appoint a second national coordinator on the environment side of the project, increasing the impression of two distinct projects. This seems to be a recurring difficulty with environment projects however, which most of the time deal with the competency of another sector without having the institutional means or power to influence decisions in the sector, nor the necessary consideration from the ministry in charge.

(b) Implementing Agencies Performance:

115. The Implementing Agencies performance is rated ***Moderately Satisfactory*** for the following reasons.

116. Two implementing agencies, SAMSA and IOC (respectively regional coordinating unit and sub-regional coordinating unit) were chosen for this project, taking into account their in-house expertise and the two-sided nature of the project. The two implementing agencies did not have the same experience or capacity. IOC had been managing several regional projects for many years, successfully implemented two World Bank projects before this one and was well versed into the political aspects of such projects. SAMSA was a more technical agency, had less experience with regional integration and had not worked with the World Bank before.

117. Both agencies made substantial contributions to the performance of what was a complex and difficult initiative, in part compensated for and endeavoring to address the issues arising from the preparation stage, as far as feasible. SAMSA adapted to the numerous changes that were required in the implementation of the shipping activities and managed to hasten implementation to complete most of the activities. Both SAMSA and the IOC displayed good ownership of the project and together greatly assisted implementation.

[31] More details are available in IOC's final report.

118. They took up a leadership role in establishing the policy dialogue in some countries to effectively start the project, monitored the implementation of the activities very closely in many countries and have been proactive in realizing the benefits, such as adding activities to the oil spill component (on HNS and dispersant policies) and combining finances available from other projects. IOC, being a focal point for many regional projects in the field of environment, also fostered coordination between projects, avoiding redundancies, creating synergies and disseminating information.

(c) Justification of Rating for Overall Borrower Performance:

119. The Overall Borrower Performance is rated ***Moderately Unsatisfactory*** consistent with the evaluation of each section above.

6 Lessons Learned

120. **Keep it simple. If the project is regional, keep it simpler.** The sheer scale and complexity of this project has negatively affected both implementation and outcomes. A more appropriate project design would have been to focus on either the shipping or the oil spill activities and avoid adding other aspects. Regional projects are difficult and entail specificities that require close attention: they often progress at the pace of the slowest stakeholders, as all countries face different implementation contexts, and coordination with different cultures and languages is a challenge. In that setting, the design of any regional project should be kept simple, unambiguous, and streamlined wherever possible.

121. **Quality at entry is crucial.** One of the key lessons of this project is that inadequate preparation and design has lasting impacts on its implementation, efficiency and eventually its outcomes. Once again, in the context of a regional project, robust preparation work is even more essential, and the true commitment of each government and its agencies should be ensured before the start of the project. Insufficient preparation in this project has in particular led to stand-alone needs assessment of each technology during implementation, which, we argued earlier, undermined the required holistic approach to maritime safety and thus the efficiency of the project.

122. **Using two implementing agencies contributed significantly to the project.** It was feared at preparation stage that having two implementing agencies might be detrimental to the project. On the contrary, through adequate collaboration and positive cross-stimulation, SAMSA and IOC have been able to advance their own field of expertise with very good results and in part compensate for a suboptimal preparation. It has been noted however that pairing two implementing agencies is likely to complicate any substantial restructuring the project might require.

123. **Ensuring the sustainability of the project's outcomes is difficult but essential.** In several of the countries, the activities face questions of sustainability, in part because of low-ownership. Other comparable projects, including many environmental endeavors, face similar ownership challenges which translate into poor sustainability of outcomes. Obtaining buy-in and ensuring sustainability are therefore far from being straightforward, and should be given more explicit consideration at design stage for this type of project. More importantly, sustainability

arrangements can quickly become collateral casualties of difficulties that arise during implementation.

124. In the specific context of this project, other stakeholders than the countries of the regions benefit from the activities developed, i.e. increasing the safety of navigation and reducing the risks of pollution of the marine and coastal ecosystems of the region: The shipping and oil and gas industries, and the tourism and the fishing sectors. Moreover, the protection of these ecosystems being a global public good, there is a rationale for some international commitment. It might therefore be useful to re-consider sustainability through this prism and take stock of the difficulties many countries face in integrating the recurring needs that arise from ensuring safety of navigation and pollution prevention in the region. Other financing solutions could be explored to pursue the activities undertaken here, which importance to the sustainable development of the region is widely acknowledged. A regional scheme that would involve financial contributions from the different sectors (e.g. through levies) and the international community might be an option. It could also include an insurance scheme against ship-born pollution, involving the benefiters listed above in the payment of the premiums, linked to the RCC, and under the umbrella of the IMO and the Nairobi convention.

7 Comments on Issues Raised by Borrower / Implementing Agencies / Partners

(a) Borrower/implementing agencies: See Annex 6

(b) Cofinanciers, other partners and stakeholders: N/A

ANNEXES

Annex 1. Project Costs and Financing[32]

Project Cost by Activity[33] (in US$)

Categories		Appraisal estimate	Restructuring #2	Restructuring #3	Disbursed	Undisbursed	Disbursed / Appraisal estimate
1. Works	(a) SAMSA	2,200,000	1,100,000	1,100,000	93,483	1,006,517	4%
	(b) IOC	0	0	0	0	0	
2. Goods	(a) SAMSA	1,500,000	1,300,000	1,300,000	1,931,263	-631,263	129%
	(b) IOC	0	700,000	1,175,000	1,143,382	31,618	
3. Consultants' Services	(a) SAMSA	2,200,000	1,200,000	1,200,000	1,475,492	-275,492	67%
and Audits	(b) IOC	1,600,000	2,430,000	2,430,000	1,364,642	1,065,358	85%
4. Training	(a) SAMSA	1,200,000	520,000	520,000	476,099	43,901	40%
	(b) IOC	1,100,000	1,300,000	1,300,000	1,211,457	88,543	110%
5. Operating costs	(a) SAMSA	600,000	1,200,000	1,200,000	373,088	826,912	62%
	(b) IOC	100,000	300,000	300,000	179,743	120,257	180%
Unallocated		500,000	950,000	475,000	0	475,000	0%
TOTAL		**11,000,000**	**11,000,000**	**11,000,000**	**8,248,648**	**2,751,352**	**75%**

Project Cost by Component[34] (in US$)

Project components	Appraisal estimate	Latest estimate	Percentage of Appraisal
A. Development of a regional marine highway and institutions	**6,000,000**	**816,580**	**14%**
A.1 Generating nautical charts and publications	*2,400,000*	*750,000*	*31%*
A.2 Maintaining charts and publications	*900,000*	*49,878*	*6%*
A.3 Installing aids to navigation	*500,000*	*8,351*	*2%*
A.4 Installing automatic information systems with MF/HF/VHF communication	*1,700,000*	*8,351*	*0%*
A.5 Support for search and rescue operations	*100,000*	*0*	*0%*
A.6 Evaluating the pilot phase and preparing the next phase	*400,000*	*0*	*0%*
B. Capacity building for prevention of coastal and marine contamination	**1,100,000**	**877,979**	**80%**
B.1 Sensitization on issues related to coastal and marine protection	*500,000*	*12,116*	*2%*
B.2 Creating pollution prevention and contingency management plans	*300,000*	*600,140*	*200%*
B.3 Developing a methodology to value ecosystems benefits	*200,000*	*111,540*	*56%*
B.4 Developing a regional database and GIS on marine and coastal resources	*200,000*	*154,183*	*77%*
C. Building a regional oil spill response capacity	**600,000**	**1,889,288**	**315%**
C.1 Supporting countries' efforts to translate IMO conventions into national legislation	*300,000*	*453,527*	*151%*
C. 2 Assisting Kenya, Mozambique, South Africa and Tanzania to develop NOSCPs, join the regional plan and create sensitivity maps	*200,000*	*267,219*	*134%*
C.3 Oil spill response equipment	*0*	*1,058,446*	*N/A*
C.4 Facilitating regional agreements and development of a regional contingency plan	*100,000*	*110,097*	*110%*
D. Port state control, fisheries monitoring, and project coordination and management	**3,300,000**	**2,618,840**	**79%**
D.1 Supporting adoption of port state control	*400,000*	*0*	*0%*
D.2 Supporting monitoring of fisheries activities	*500,000*	*0*	*0%*
D.3 Coordinating with other GEF-supported projects	*100,000*	*0*	*0%*
D.4 Support project coordination and management	*2,300,000*	*2,618,840*	*114%*
TOTAL	**11,000,000**	**6,202,687**	**56%**

[32] Due to lack of information, these costs do not include sources of funds other than the GEF Grant.
[33] As of June 12, 2013
[34] As of December 31, 2012, Final financial management data have not been received on time and the table could not be updated with the latest information.

Annex 2. Outputs by Component

Component A – Development of a regional marine highway and institutions	
(A-1) Generating nautical charts and publications	
Description: The major routes used by vessels will be surveyed using swathe bathymetry equipment to identify potential dangers on the routes and to provide data to be used to produce both paper and digital charts. In addition, the approaches to and sites of some five ports (one in Mozambique, one in Kenya, two in Tanzania, and one in Madagascar), the area around Comoros and the area around Aldabra will be surveyed and the relevant paper and digital charts produced and regularly updated. The charts and publications will include information on the environmental conditions and biological resources of the region's waters, including nurseries, major fish migration routes, and environmentally-sensitive areas.	*Outputs:* - A route has been surveyed in the Mozambique Channel, based on current traffic patterns. Additional routes from this route to the port of Mahajanga (Madagascar) have also been surveyed. The data was made available to the coastal States, forwarded to the United Kingdom Hydrographic Office (UKHO) and subsequently included in paper and electronic charts. 20 coastal series and 3 larger series have been produced, as well as 5 port approaches (Anjouan (Comoros), Mahajanga and Toamasina (Madagascar), Maputo (Mozambique), Zanzibar (Tanzania)). - The route is not formally recognized by the International Maritime Organization (IMO) as of project closing, and as such remains voluntary. It is indicated on the charts. - The charts do not include information on the environmental conditions and biological resources of the region's waters, as described in the Project Appraisal Document (PAD)
(A-2) Maintaining charts and publications	
Description: The major routes used by vessels will be surveyed using swathe bathymetry equipment to identify potential dangers on the routes and to provide data to be used to produce both paper and digital charts. In addition, the approaches to and sites of some five ports (one in Mozambique, one in Kenya, two in Tanzania, and one in Madagascar), the area around Comoros and the area around Aldabra will be surveyed and the relevant paper and digital charts produced and regularly updated. The charts and publications will include information on the environmental conditions and biological resources of the region's waters, including nurseries, major fish migration routes, and environmentally-sensitive areas.	*Outputs:* Different types of training have been supported: - Introductory course on hydrography, on board the French survey vessel Beautemps-Beaupré (13 participants from 6 countries) - An "introduction to hydrographic data processing and marine cartography", conducted by UKHO (14 participants from 6 countries) - 2 students from Madagascar were trained on a Category A course by *SHOM* in France - 6 students from 6 countries were trained on a Category B course by Skilltrade Academy in the Netherlands
(A-3) Installing aids to navigation	
Description: Surveys of hazards and assessments of the status of the lights and buoys will be carried out in along all the major shipping routes, with particular emphasis on the route to be used for the demonstration phase of the marine highway. In addition, aids to navigation will be installed to guide ships traveling through the waters of the western Indian Ocean and entering ports and harbors. GEF financing of US$ 1.1 million will support installation of the aids to navigation.	*Outputs:* - An inspection of Aids to Navigation (AtoN) sites has been completed, and led to the replacement of the lighthouse in Aldabra (Seychelles) - Rehabilitation of another lighthouse, in Ponta Zavora (Mozambique), is incomplete due to delays in clearing the required equipment at the customs. - A training has been conducted on the maintenance of AtoN, at SAMSA in South Africa (7 participants from 4 countries)
(A-4) Installing automatic information systems with MF/HF/VHF communication	
Description: The project will support the installation of six shore-based automatic information systems (several in South Africa (including Durban), one in Inhambane, one in Nacala, and one in Grand Comoros). Should a comparable satellite automatic information system become available while the project is being implemented, the benefits of this system compared with that of terrestrial stations will be evaluated. This subcomponent will support installation of equipment (financed by the industry) on ships taking part in the demonstration project, which together will form the basis of a ship reporting scheme. The subcomponent will also support training in the operation and maintenance of the systems. The installations will be used to transmit real time information on hydrographical and oceanographic, environmental, weather conditions, and the positions and movements of ships in the area. They will form the foundation of a marine highway that will fully integrate information required for marine safety and environmental protection and management, including management of fisheries.	*Outputs:* - Automatic Information Systems (AIS) base stations have been installed in Moroni (Comoros), Mombasa (Kenya), Zanzibar (Tanzania), Mahajanga (Madagascar). The base station in Mahajanga has been linked to the monitoring station in Antananarivo (Madagascar). Two AIS base stations have also been installed on board coast guard ships in Seychelles. Training on operation and maintenance has been conducted. - In Mozambique, the Maputo monitoring station and the Ilha de Mozambique and Ponta Zavora base stations could not be installed because of delays in clearing the equipment at customs. - South Africa financed its own AIS equipment. - The installations can only transmit positions and movements of ships within close range (approx.. 100km) and are not connected one to another.

(A-5) Support for search and rescue operations	
Description: This subcomponent will support the installation of telecommunication links between the marine rescue coordination centers in South Africa and Réunion.	*Outputs:* - The telecommunication links between South Africa and La Réunion were well functioning. - Global Maritime Distress and Safety System (GMDSS) equipment has been provided to the Maritime Rescue Coordination Center (MRCC) in Mauritius.
(A-6) Evaluating the pilot phase and preparing the next phase	
Description: This subcomponent will finance a detailed assessment of the pilot phase and draw lessons for use in designing and rolling out the second phase of the marine highway development. The evaluation of the demonstration project will include an in-depth study of the costs and benefits to large fishing vessels of using a marine highway, and will specify a range of regulatory and other measures that would encourage such vessels to use it. This subcomponent will also finance the detailed preparation of the second phase of the marine highway development.	*Outputs:* - No detailed assessment of the pilot phase was conducted.
<u>Component B</u> – Capacity building for prevention of coastal and marine contamination	
(B-1) Sensitization on issues related to marine and coastal protection	
Description: This subcomponent will support seminars and workshops on environmental sensitivity mapping, project management, issues related to implementation of conventions, marine navigation safety, prevention of marine and coastal pollution, development and implementation of national contingency plans, use of oil spill equipment, characteristics and effects of oil in the marine environment, risk assessment and development of appropriate response strategies. It will also finance the participation of government officials at major international seminars on the safety of marine navigation, prevention of ship-based pollution, enforcing fisheries regulations, and related matters. It will support experts to test an oil spill response manual. Finally, it will support the training of trainers.	*Outputs:* - Numerous training sessions have been organized within the project and training has been provided on all aspects listed in the description.
(B-2) Creating pollution prevention and contingency management plans for coastal and marine biodiversity hotspots with high risk profiles	
Description: Sensitivity maps in combination with the risk assessment will be used to identify coastal and marine biodiversity hotspots which are at high risk of pollution and damage from shipping accidents. Site-specific and issue-related pollution prevention and contingency management plans will be developed for these sites. Local communities, private businesses, and other key stakeholders will participate actively in developing these plans to ensure that they reflect the preferences and values of the people who will implement them.	*Outputs:* - Sensitivity maps have been developed for all countries, except South Africa where the government did not participate in the activity. - These maps are integrated into the national oil spill contingency plans, and include several layers: base maps, resource and tactical maps, strategic maps, operational maps. Most operational maps are still under development, and all maps are still to be validated at national level.
(B-3) Developing a methodology to value ecosystem benefits	
Description: This subcomponent will support the development of a methodology to enable governments to carry out baseline studies to identify the key environmental resources of the region and assign indicative values to the resources. Important resources include coral reefs, calving areas of marine mammals, nurseries of various fish species, and the like. The methodology will draw on information on biological resources generated through the UNDP-executed Western Indian Ocean Large Marine Ecosystem Project (WIO MEP) and the World Bank executed Southwest Indian Ocean Fisheries Project (SWIOFP). Those projects in turn will benefit from the methodology in developing the strategic action programs.	*Outputs:* - Two workshops have been organized to build capacity and develop an economic valuation methodology, and case studies have been conducted in 5 countries to apply the methodology on some portions of the coastal territory. - Guidelines and a synthesis of applicable regional methodologies have been produced.
(B-4) Developing a regional database and geographic information system on marine and coastal resources	
Description: The project will finance the development of a regional database and geographic information system on the marine environment, marine and coastal resources, ship movements, ship waste, and sea-based activities. Activities will include collection of baseline data where necessary. The information, together with that generated under the WIO MEP and the SWIOFP, will be used to create sensitivity maps indicating coastal and marine resources and their	*Outputs:* - A website has been developed and is accessible at www.wioprcc-ioc.org. It has been designed to host the database, but currently lacks most of the information. An "electronic library" gathering all the documents from the project has also been created at IOC.

economic values and sea-based sources of marine pollution. The database will be useful in developing the strategic action programs for the Agulhas and Somali large marine ecosystems.	
<u>Component C</u> – Building a regional oil spill response capacity	
(C-1) Supporting countries' efforts to translate IMO conventions into national legislation	
Description: The project will help countries to draft national legislation where necessary to harmonize national laws with the provisions of key IMO conventions (primarily OPRC, FUND, and CLC conventions). It will also assist countries in ratifying additional conventions that countries deem important. This subcomponent will support the training both locally and abroad of country experts on international maritime laws. It will support several regional seminars and workshops on topics related to the ratification of the IMO conventions. Finally, it will support formulation of action plans with the steps and timetable to improve implementation of the conventions. This will help countries handle the complex technical requirements of the conventions. Because countries that were included in the West Indian Ocean Oil Spill Contingency Planning Project have already ratified most of the key conventions and taken the steps needed to implement them, Kenya, Mozambique, and Tanzania will be the primary beneficiaries of this component.	*Outputs:* - One lawyer from Kenya, Mauritius, Mozambique and Tanzania has been trained at master degree level on maritime law. A training session in collaboration with IMO has also been conducted for legal advisors in the maritime and environmental sectors to enhance their understanding of the IMO conventions. - During the course of the project, Tanzania ratified MARPOL 73/78 convention Annexes I/II, III, IV and V. South Africa ratified OPRC convention 90.
(C-2) Assisting Kenya, Mozambique, South Africa and Tanzania to develop national oil spill contingency plans, to join the regional plan and to create sensitivity maps	
Description: Mozambique, Tanzania, and Kenya have yet to develop or complete national oil spill contingency plans, as they are encouraged to do under the Nairobi Convention. This component will help them to do so, building on the work already undertaken by the IMO and drawing upon the expertise that has been developed under the West Indian Ocean Oil Spill Contingency Planning Project. It will also support (under the Nairobi Convention) activities to join the regional plan prepared under the previous project that provides a framework for the countries of the region to cooperate and to provide mutual assistance in the event of an oil spill. Finally, this component will support the development of marine ecosystem sensitivity maps that will be used to identify areas of special significance that may require especially high levels of protection. The sensitivity maps will be used in the creation of the nautical charts and publications that are key elements of the marine highway.	*Outputs:* - National oil spill contingency plans have been developed or updated for all the participating countries, including Kenya, Mozambique and Tanzania. However, Tanzania's plan is not complete and Kenya, Mozambique, and Tanzania's plans have to be approved at the national level at project closing. - The regional plan (or regional agreement), defining a framework for cooperation in case of a major oil spill, has been signed by all participating countries. However, La Réunion, one of the key players in the region, has not signed it at project closing. - No marine ecosystem sensitivity maps have been developed.
(C-3) Oil spill response equipment	
Description: Kenya, Mozambique, and Tanzania require oil spill equipment to be able to respond to emergencies. This subcomponent will assess the needs and provide specifications for the required equipment. Partners are expected to finance the procurement to the necessary equipment and supply it to countries.	*Outputs:* - Oil spill response equipment has been provided to Mauritius, Mozambique, Tanzania, and Comoros.
(C-4) Facilitating regional agreements and development of a regional contingency plan	
Description: The project will facilitate the establishment of regional cooperation agreements between the participating countries on prevention of transboundary marine pollution, safety of marine navigation, oil spill response, and sharing of information. This activity will also support the preparation of a regional marine pollution contingency plan. This subcomponent will also support the establishment of a regional center. A regional body will be needed to coordinate national actions, to monitor region-wide environmental conditions and causes of degradation and damage, and to eventually operate the marine highway. Such a body will be critically important to coordinate multicountry activities beyond the lifetime of the project and will thus support its sustainability. The project through technical assistance and training will strengthen an appropriate organization.	*Outputs:* - A regional oil spill contingency plan (ROSCP) has been drafted and signed by all participating countries. It is now operational but has not been tested during an exercise. - A regional coordination center (RCC), designed as the regional body mentioned in the description, is almost operational. Terms of references have been agreed upon, and a selection process led to the choice of SAMSA (Cape Town, South Africa) to host it. South Africa did not sign the Host Country Agreement however and the RCC is therefore not operational yet.

Component D – Port state control, fisheries monitoring and project coordination and management	
(D-1) Supporting adoption of port state control	
Description: Port state control allows countries to ascertain whether ships entering their ports meet the requirements of the major IMO conventions on the safety of navigation and the prevention of pollution from ships regardless of whether or not the flag state is party to the conventions. Port state control also helps to make the operations of illegal, unreported, unregulated fishing fleet unprofitable by eliminating opportunities to land and sell fish that have been harvested in violation of the law. A regional port state control arrangement provides an effective tool to ensure that ships using international navigation routes and calling on major ports in a region comply with the rules and standards set out in the applicable IMO conventions. A memorandum of understanding for port state control in the Indian Ocean was signed on June 5, 1998, by Australia, Bangladesh, Djibouti, Eritrea, India, Iran, Kenya, Maldives, Mauritius, Mozambique, Myanmar, Seychelles, South Africa, Sri Lanka, Sudan, Tanzania and Yemen. This component will support the widening of this regional agreement on port state control to Madagascar and Comoros. Based on the work undertaken or envisaged by the IMO, this component will also promote its implementation in countries participating in the project, covering issues such as procedures for surveillance, inspection, and detention of ships, and arrangements for exchanging information. It will also support capacity building, including training of inspectors to international standards in port state control.	*Outputs:* - Comoros signed the Indian Ocean Memorandum of Understanding on port state control, but not Madagascar. - Two port state control officers courses were provided, involving all countries and 52 students (cumulative).
(D-2) Supporting monitoring of fisheries activities	
Description: This subcomponent will support the development of an action plan for fisheries monitoring. It will also support implementation of its main recommendations, assuming finance is available and no other organization or project are able to finance these.	*Outputs:* - No action plan for fisheries monitoring has been developed.
(D-3) Coordinating with other GEF-supported projects	
Description: A key element of the project is its commitment to coordinate and collaborate with other projects in the region that are working to protect the marine and coastal environment. This subcomponent will support activities to facilitate such coordination and collaboration, such as establishing and maintaining a project website that links to the GEF Secretariat and International Waters-Learn website, hosting regional workshops, attending the workshops and events of others, participating in the GEF-International Waters Conferences (including providing exhibits), and the like. A budget of about US$ 100,000 from the project has been allocated for activities to promote coordination among various GEF-supported projects.	*Outputs:* - Coordination with other projects in the region has been mainly conducted through the involvement of IOC in several of these projects, as well as the creation of a website for the project, the participation in International Waters – Learn website, and cross-participation in workshops and steering committees.
(D-4) Supporting project coordination and management	
Description: Assistance will be needed at the regional, subregional, and national levels to manage the project and coordinate the various activities. This component will finance equipment, staff, and logistical support required by the regional body, a subregional entity, and national institutions to ensure that the project is implemented efficiently and to build sustainable capacity of the participating entities to manage the development of the marine highway and to coordinate activities after the project is completed. I t will also strengthen the technical capabilities and the institutional and coordinating arrangements among the concerned states to collectively prevent, manage, and respond to trans-boundary marine pollution. This component will support technical assistance and studies as needed during project implementation. It will support creation of capacity for monitoring key performance indicators and for evaluating project implementation progress and impact. This component will also support the establishment of mechanisms for sustainable financing of the development of the marine highway and other infrastructure and capacity created through the project.	

Annex 3. Outputs by Country

Note: the table below only lists the effective outputs of the project by country. For a more comprehensive assessment of these outputs and gaps, please refer to Annex 2.

	Component A – Development of a regional marine highway and institutions					
	(A-1) Generating nautical charts and publications	**(A-2) Maintaining charts and publications**	**(A-3) Installing aids to navigation**	**(A-4) Installing automatic information systems with MF/HF/VHF communication**	**(A-5) Support for search and rescue operations**	**(A-6) Evaluating the pilot phase and preparing the next phase**
Comoros	- Anjouan port approach has been surveyed	- Hydrographic trainings provided to 4 students (cumulative)		- AIS base station installed in Moroni - Training on operation and maintenance		
Kenya		- Hydrographic trainings provided to 6 students (cumulative)		- AIS base station installed in Mombasa - Training on operation and maintenance		
Madagascar	- Mahajanga and Toamasina ports approaches have been surveyed	- Hydrographic trainings provided to 11 students (cumulative)		- AIS base station installed in Mahajanga, linked to the monitoring station in Antananarivo - Training on operation and maintenance		
Mauritius		- Hydrographic trainings provided to 6 students (cumulative)			- Global Maritime Distress and Safety System (GMDSS) equipment has been provided to the Maritime Rescue Coordination Center (MRCC) in Port Louis	
Mozambique		- Hydrographic trainings provided to 6 students (cumulative)				
Seychelles		- Hydrographic trainings provided to 2 students (cumulative)	- The Aldabra lighthouse has been replaced	- AIS base station installed on board coast guard ships - Training on operation and maintenance		
South Africa		- Hydrographic trainings provided to 1 student (cumulative)				

Tanzania	- Zanzibar port approach has been surveyed	- Hydrographic trainings provided to 4 students (cumulative)		- AIS base station installed in Zanzibar - Training on operation and maintenance		
Regional	- A route has been surveyed in the Mozambique Channel, based on current traffic patterns. Additional routes from this route to the port of Mahajanga (Madagascar) have also been surveyed. The data was made available to the coastal States, forwarded to the United Kingdom Hydrographic Office (UKHO) and subsequently included in paper and electronic charts. 20 coastal series and 3 larger series have been produced.		A training has been conducted on the maintenance of AtoN, at SAMSA in South Africa (7 participants from 4 countries)			

	<u>Component B</u> – Capacity building for prevention of coastal and marine contamination			
	(B-1) Sensitization on issues related to marine and coastal protection	**(B-2) Creating pollution prevention and contingency management plans for coastal and marine biodiversity hotspots with high risk profiles**	**(B-3) Developing a methodology to value ecosystem benefits**	**(B-4) Developing a regional database and geographic information system on marine and coastal resources**
Comoros	Numerous training sessions have been organized within the project and training has been provided on all aspects listed in the description. These trainings are detailed under the relevant components	- Sensitivity maps have been developed but their national validation is pending		
Kenya		- Sensitivity maps have been developed but their national validation is pending	- Case studies have been conducted to apply the methodology on some portions of the coastal territory.	
Madagascar		- Sensitivity maps have been developed but their national validation is pending	- Case studies have been conducted to apply the methodology on some portions of the coastal territory.	
Mauritius		- Sensitivity maps have been developed but their national validation is pending	- Case studies have been conducted to apply the methodology on some portions of the coastal territory.	
Mozambique		- Sensitivity maps have been developed but their national validation is pending	- Case studies have been conducted to apply the methodology on some portions of the coastal territory.	
Seychelles		- Sensitivity maps have been developed but their national validation is pending		
South Africa				
Tanzania		- Sensitivity maps have been developed but their national validation is pending	- Case studies have been conducted to apply the methodology on some portions of the coastal territory.	
Regional			- Two workshops have been organized to build capacity and develop an economic valuation methodology. - Guidelines and a synthesis of applicable regional methodologies have been produced.	A website has been developed and is accessible at www.wioprcc-ioc.org. It has been designed to host the database, but currently lacks most of the information. An "electronic library" gathering all the documents from the project has also been created at IOC.

	Component C – Building a regional oil spill response capacity			
	(C-1) Supporting countries' efforts to translate IMO conventions into national legislation	**(C-2) Assisting Kenya, Mozambique, South Africa and Tanzania to develop national oil spill contingency plans, to join the regional plan and to create sensitivity maps**	**(C-3) Oil spill response equipment**	**(C-4) Facilitating regional agreements and development of a regional contingency plan**
Comoros		- National oil spill contingency plan has been updated - Extensive training has been conducted	- Oil spill response equipment has been provided.	
Kenya	- One lawyer has been trained at master degree level on maritime law	- National oil spill contingency plan has been developed but not approved at national level - Extensive training has been conducted		
Madagascar		- National oil spill contingency plan has been updated - Extensive training has been conducted		
Mauritius	- One lawyer has been trained at master degree level on maritime law	- National oil spill contingency plan has been updated - Extensive training has been conducted	- Oil spill response equipment has been provided.	
Mozambique	- One lawyer has been trained at master degree level on maritime law	- National oil spill contingency plan has been developed but not - Extensive training has been conducted approved at national level	- Oil spill response equipment has been provided.	
Seychelles		- National oil spill contingency plan has been updated - Extensive training has been conducted		
South Africa	- During the course of the project, South Africa ratified OPRC convention 90.	- National oil spill contingency plan has been updated - Extensive training has been conducted		
Tanzania	- One lawyer has been trained at master degree level on maritime law - During the course of the project, Tanzania ratified MARPOL 73/78 convention Annexes I/II, III, IV and V	- National oil spill contingency plan is under development - Extensive training has been conducted	- Oil spill response equipment has been provided.	
Regional	- A training session in collaboration with IMO has also been conducted for legal advisors in the maritime and environmental sectors to enhance their understanding of the IMO conventions	- The regional plan (or regional agreement), defining a framework for cooperation in case of a major oil spill, has been signed by all participating countries.		- A regional oil spill contingency plan (ROSCP) has been drafted and signed by all participating countries. It is now operational but has not been tested during an exercise. - A regional coordination center (RCC), designed as the regional body mentioned in the description, is almost operational. Terms of references have been agreed upon, and a selection process led to the choice of SAMSA (Cape Town, South Africa) to host it. South Africa did not sign the Host Country Agreement however and the RCC is therefore not operational yet.

	Component D – Port state control, fisheries monitoring and project coordination and management			
	(D-1) Supporting adoption of port state control	**(D-2) Supporting monitoring of fisheries activities**	**(D-3) Coordinating with other GEF-supported projects**	**(D-4) Supporting project coordination and management**
Comoros	- Signed the Indian Ocean Memorandum of Understanding on port state control - Training on port state control provided to 5 students (cumulative)			
Kenya	- Training on port state control provided to 2 students (cumulative)			
Madagascar	- Training on port state control provided to 4 students (cumulative)			
Mauritius	- Training on port state control provided to 3 students (cumulative)			
Mozambique	- Training on port state control provided to 5 students (cumulative)			
Seychelles	- Training on port state control provided to 3 students (cumulative)			
South Africa	- Training on port state control provided to 20 students (cumulative)			
Tanzania	- Training on port state control provided to 7 students (cumulative)			
Regional			Coordination with other projects in the region has been mainly conducted through the involvement of IOC in several of these projects, as well as the creation of a website for the project, the participation in International Waters – Learn website, and cross-participation in workshops and steering committees.	

Annex 4. Reconciliation of PDOs, GEOs and Objectives used in this ICR

Table 1: Reconciliation of PDOs and GEOs as stated in the PAD and Legal Agreements

	PAD main section (p. 3)	PAD main section (p. 7)	Results framework	Legal Agreement
PDO	To increase the safety and efficiency of navigation (***PDO1***) By establishing a demonstration marine highway to guide ships around environmentally sensitive areas and through selected busy lanes (***PDO2***) By supporting widening the regional agreement on port state control and implementation of its provisions (***PDO3***)		To increase the safety and efficiency of navigation.	Assist the Participating States to increase safety and efficiency of navigation of the Western Indian Ocean.
Global Environmental Goal	Reduce the risk of ship-based environmental contamination (such as oil spills from groundings and illegal discharges of ballast and bilge waters) (***GEO1***) To strengthen the capacity of countries to respond to oil or chemical spill emergencies in the region (***GEO2***)	Help prevent ship-based environmental contamination (such as oil spills from groundings and illegal discharges of ballast and bilge waters) Focusing on Kenya, Mozambique, South Africa, and Tanzania) To reduce risks of environmental damage to beaches, fishing grounds, and other domestic resources from spills of oil and chemicals from oil or chemical spills *(sic)*.		
GEO	To ascertain the economic, technical, and institutional feasibility of introducing modern aids to navigation systems in the region, such as an electronically supported highway, to guide ships through sensitive areas and to encourage monitoring of the movements and activities of fishing and other vessels operating within countries' territorial waters (***GEO3***) To support widening the existing regional agreement (June 5, 1998) on port state control and implementation of its provisions (***GEO4***) (Focusing on Kenya, Mozambique, South Africa, and Tanzania) To reduce risks of environmental damage to beaches, fishing grounds, and other domestic resources from spills of oil and chemicals. This will be achieved by supporting efforts of Kenya, Mozambique, South Africa, and Tanzania to become part of the regional oil spill response plan, by completing the identification and mapping of environmentally sensitive areas along coasts and sea lanes, and support regional collaboration with the west Indian Ocean island states (***GEO5***)		To ascertain the economic, technical, and institutional feasibility of introducing a marine highway in the region. To support widening the existing agreement (June 5, 1998) on port state control and implementation of its provisions. To reduce risks in Kenya, South Africa, Tanzania, and Mozambique of environmental damage to beaches , fishing grounds, and other domestic resources from spills of oil and chemicals.	

Table 2: Reconciliation of PDOs/GEOs and Objectives as stated in this ICR

Objectives, as stated in section 3.2 of this ICR	Corresponding PDOs and GEOs
Objective 1: *Establish a demonstration marine highway to guide ships around environmentally sensitive areas and through selected busy lanes*	**PDO1:** *To increase the safety and efficiency of navigation* **PDO2:** *By establishing a demonstration marine highway to guide ships around environmentally sensitive areas and through selected busy lanes* **GEO1:** *Reduce the risk of ship-based environmental contamination (such as oil spills from groundings and illegal discharges of ballast and bilge waters)* **GEO3:** *To ascertain the economic, technical, and institutional feasibility of introducing modern aids to navigation systems in the region, such as an electronically supported highway, to guide ships through sensitive areas and to encourage monitoring of the movements and activities of fishing and other vessels operating within countries' territorial waters*
Objective 2: *Strengthen the capacity of countries to respond to oil or chemical spill emergencies in the region*	**GEO2:** *To strengthen the capacity of countries to respond to oil or chemical spill emergencies in the region* **GEO5:** *(Focusing on Kenya, Mozambique, South Africa, and Tanzania) To reduce risks of environmental damage to beaches, fishing grounds, and other domestic resources from spills of oil and chemicals. This will be achieved by supporting efforts of Kenya, Mozambique, South Africa, and Tanzania to become part of the regional oil spill response plan, by completing the identification and mapping of environmentally sensitive areas along coasts and sea lanes, and support regional collaboration with the west Indian Ocean island states*
Objective 3: *Organize regional cooperation on oil spill response and safety of navigation*	**PDO3:** *By supporting widening the regional agreement on port state control and implementation of its provisions* **GEO4:** *To support widening the existing regional agreement (June 5, 1998) on port state control and implementation of its provisions* **GEO5:** *(Focusing on Kenya, Mozambique, South Africa, and Tanzania) To reduce risks of environmental damage to beaches, fishing grounds, and other domestic resources from spills of oil and chemicals. This will be achieved by supporting efforts of Kenya, Mozambique, South Africa, and Tanzania to become part of the regional oil spill response plan, by completing the identification and mapping of environmentally sensitive areas along coasts and sea lanes, and support regional collaboration with the west Indian Ocean island states*
Stand-alone activity: *Economic valuation of ecosystems*	**GEO2:** *To strengthen the capacity of countries to respond to oil or chemical spill emergencies in the region*
Stand-alone activity: *Coordination with other (GEF-funded) projects*	*N/A*
Stand-alone and non-implemented activity: *Supporting monitoring of fishing activities*	**GEO3:** *To ascertain the economic, technical, and institutional feasibility of introducing modern aids to navigation systems in the region, such as an electronically supported highway, to guide ships through sensitive areas and to encourage monitoring of the movements and activities of fishing and other vessels operating within countries' territorial waters*

Annex 5. Bank Lending and Implementation Support/Supervision Processes

4.1.1 (a) Task Team members

Names	Title	Unit	Responsibility/ Specialty
Lending			
Abdelmoula Ghzala	Team Leader	AFTTR	TTL (until 2/19/09)
Wendy S Ayres	Economist (consultant)	AFTP2	
Robin Broadfield	Sr Regional Coordinator (Peer Reviewer)	EASEN	
Marc Juhel	Lead Transport Specialist (Port Specialist, Peer Reviewer)	AFTTR	
Philippe de Naurois	Financial Analyst (consultant)	AFTTR	
Alberto Ninio	Lead Counsel	LEGAF	
Jonathan Nyamukapa	Sr Financial Management Specialist	AFTFM	
Sylvain Rambeloson	Senior Procurement Specialist	AFTPC	
Monica Sawyer	Counsel	LEGAF	
Ntombie Siwale	Program Assistant	AFTTR	
Subhash Seth	Procurement	AFTTR	
Supervision/ICR			
Richard Martin Humphreys	Senior Transport Economist	AFTTR	TTL (from 12/20/2012 to 12/31/2012)
Juan Gaviria	Sector Leader	AFTTR	Former TTL (from 2/19/2009 to 12/20/2012)
Wendy Schreiber Ayres	E T Consultant	AFTU1	
Simon B. Chenjerani Chirwa	Senior Procurement Specialist	AFTPE	
Jemima Harlley	Program Assistant	AFCS1	
Patrick Kabuya	Financial Management Specialist	AFTME	
Tandile Gugu Ngetu	Financial Management Specialist	AFTME	
Philippe J. de Naurois	Consultant	MNSTR	
Jonathan Nyamukapa	Sr Financial Management Specialist	AFTME	
Sylvain Auguste Rambeloson	Senior Procurement Specialist	AFTPE	
Subhash C. Seth	Consultant	SASDT	
Chitambala John Sikazwe	Procurement Specialist	AFTPE	
Gert Johannes Alwyn Van Der Linde	Lead Financial Management Spec	AFTME	
Desta Wolde Woldearegay	Program Assistant	AFTTR	

4.1.2 (b) Staff Time and Cost

Stage of Project Cycle	Staff Time and Cost (Bank Budget Only)	
	No. of staff weeks	USD Thousands (including travel and consultant costs)
Lending		
FY03		130.44
FY04		114.01
FY05		161.09
FY06		102.14
FY07		100.34
FY08		0.00
Total:		608.02
Supervision/ICR		
FY03		0.00
FY04		0.00
FY05		0.00
FY06		0.00
FY07		0.00
FY08		56.96
FY09*		2.10
Total:		59.06

Note*: Staff time and Cost information for Supervision/ICR for Year 2010-2012 are not available.

Annex 6. Summary of Borrower's ICR and/or Comments on Draft ICR

The main sections of the ICR produced by SAMSA and IOC are copied below.


WESTERN INDIAN OCEAN (GEF) MARINE HIGHWAY DEVELOPMENT AND COASTAL AND MARINE POLLUTION PREVENTION PROJECT

PROJECT COMPLETION REPORT AND EXPENDITURE STATEMENT For COMPONENTS A and D

Neil Raymond Guy
Project co-ordinator

10 March 2013

INTRODUCTION

This report covers Project activities up to the completion of the Project on 31 December 2012.

A financial analysis illustrating expenditure controlled by SAMSA is attached. *(Annex A).*

N.B It may be noted that savings in excess of US$ 1.8 million were made in the Project Co-ordination and Management allocation during the period of the Project.

COMPONENTS.

Components B and C were under the regional project management of the Indian Ocean Commission with a separate budget allocation. They have, I believe reported to the Bank.

Component A. Development of a Regional Marine Highway and Institutions

A.1. Nautical Charts and Publications

A.1.1 Status of surveys and Charts.

This component was completed in accordance with the Project Implementation Plan and reported on in December 2011.

A.1.3 Route Survey.

The Service hydrographique et océanographique de la Marine (SHOM) completed the survey of the 'route' through the Mozambique Channel in July 2010, as per the Project Implementation Plan and in accordance with international standards, including additional routes to the port of Mahajanga (Madagascar). This data was made available to the coastal States involved and with their permission the data was forwarded to the United Kingdom Hydrographic Office and included in both small scale and large-scale charts and electronic nautical charts of the region by December 2010.

In July 2012 a formal submission was made to the IMO Navigation Sub-Committee (NAV) for recognition of the survey as the 'recommended route'. This would be in the interests of environmental protection and would be supported by the latest upgrades to the aids to navigation in the region.

To allow for the submission of additional information required, the NAV Committee postponed consideration of the proposal until the NAV Committee meeting in July 2013. This would be outside the project time-frame.

It was therefore agreed by the Project Management Team with the charting authorities in the region, UKHO and SHOM to proceed with charting action to reflect the intention of the Project albeit unofficially at this stage. The display and wording that will appear on official charting and in the relevant publications is shown in *Annex B*. Should the coastal States concerned still wish to consider a further application to IMO NAV, this will have to be at their own initiative but it would be supported by South Africa and France.

A.1.3. A2.1, A 1.4 – Training.

Various training courses have been conducted involving the recipient States and are listed below.

a) A.1.3 On-Task Training in Mozambique Channel

This was provided onboard the French Navy Ocean Survey vessel *Beautemps-Beaupré* during the survey of the 'route'. The content of this course and those who were trained appear below.

The content of the course included:

- **Role of a National HO, Defense support, Support to maritime public policies, Organisation, facilities & equipment**
- **Hydrographic surveys, Oceanographic surveys, Geophysics surveys**
- **Introduction to Geodesy Basics, The marine chart, Geodesy and the marine chart**
- **Marine chart and navigational requirements**
- **Leveling**
- **The optical fix (theodolite), Comprehensive positioning reference station network**

- **Introduction to GPS Basics, GPS concept of operation, GPS Field Operations**
- **Vertical echo-sounder, Multibeam echo-sounder, Side-scan sonar, Data acquisition & processing**
- **Introduction to Oceanography Basics, Tides**
- **Gravimetry, Magnetism**
- **Observation and sampling, Imaging, Sediment echo-sounder systems,**
- **Classification of the sea floor**

Attendees

Ratovoarison Nivoarimanga	**Madagascar (Head of Hydrography & Oceanography)**
Andrianisa Stanislas Lala	**Madagascar Technical assistant in charge of dredging & Hydrography, Port Authority**
Rakotondravoavy Christophe	**Madagascar Hydrography & Topography Team leader**
Madi Mariama	**Comoros Student in Sciences of the Earth**
Kamal Thabiti Soudjay	**Comoros Fisheries Inspector**
Mohamed Ahmed Attoumani	**Comoros Pilot**
Jane Ndungu	**Kenya Satellite oceanography**
Munyendo Joseph	**Kenya Hydrographer**
Randrianilana Hasina	**Madagascar Naval Officer**
Andrianarison Farany	**Madagascar Operator, Geographic & Hydrographic Agency**
Rakotonjanahary Laurent	**ditto**
Randrianasolo Alphonse	**Madagascar In charge of AtoNs, Port Authority**
Veerapen Kesaven	**Mauritius Ministère du logement et du territoire**
Seegoolan Roandev	**Ditto**
Moises Pedro Rungo	**Mozambique Land Surveyor-Hydrographer**
Ricardo Constantino Machave	**Mozambique Hydrographer**
Nkosiyapha Msezane	**South Africa Naval Officer**
Candidates from Bangladesh, Sri Lanka and the Maldives were also trained at this time.	

<u>Comment</u> The course was well conducted and serves as an introductory course for more advanced courses offered.

Component A1 Nautical Charts and Publications												
Item	**Year 2012**											
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Items A1.1, A1.2 A1.3, A1.4 Completed **The entire route has been satisfactorily surveyed and the data included in current ENCs**												
Component A1. Nautical Charts and Publications.												
Item	**Year 2012**											
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Completed and data provided to the charting authorities.												

Component A2 Maintenance of Charts and Publications												
Item	**Year 2012**											
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
A2.4 Port and approach surveys of Maputo and Zanzibar												
A2.5 Production of ENCs												
A2.6 Equipment installed in the ports												

Items A2.1, A2.2, A2.3. Completed and data provided to charting authorities												
Budget	**US$ 420 000**											
Total Budget 2012 for Component A2	**US$ 405 000**											

b) A.2. Maintenance of charts and publications

A.2.1 and A.2.2 - Hydrographic training for Madagascar, Comoros, Kenya, Mauritius, Mozambique, Seychelles and Tanzania.

A special course was conducted by the UKHO entitled Introduction to Hydrographic Data Processing and Marine Cartography, Nairobi, Kenya. 8th – 19th November 2010

It was hosted by Dr Hussein O. Farah, Director General, Regional Centre for Mapping of Resources for Development (RCMRD) and conducted by the United Kingdom Hydrographic Office

This course provided an understanding of Hydrographic Data Processing, Marine Cartography, Electronic Navigational Charting (ENC) and the associated international standards, mainly IHO Standard's S-4 and S-57. The training was aimed at explaining the chart production and ENC production phases through a series of seminars and practical exercises.

There were 14 participants from 6 countries

Mariama Madi	**COMOROS**
Aciano A Lipangue	**MOZAMBIQUE**
Celia Nagaia	**MOZAMBIQUE**
Hassan Vuai Hassan	**TANZANIA**
Raphiael Onyango Aduol	**KENYA**
Magdalene W Njuki	**KENYA**
Sophia Asuko Alubala	**Kenya**
Edwin Emillian Nkinzo	**Tanzania**
Cliff Zelih	**Seychelles**
Ignatious Kigili Nhnyete	**Tanzania**
Joao Jose Lobo	**Mozambique**
Hembal Teckmun	**Mauritius**
Purryag Tirth	**Mauritius**
Goorooduth Gopaul	**Mauritius**

Instructors:

Mr Martin Storrar (Technical/Cartographic Trainer UKHO, UK) and Mr Kenneth Blagdon (Technical/Cartographic Trainer UKHO, UK) conducted the two week course. Both instructors had a high level of experience (each having over 25 years), skill and knowledge of paper and digital charting.

Hydrographic Category A & B Courses Completed

Two students from Madagascar were trained on a Cat A course by SHOM in France.

Further training and a period of practical training was undertaken to Hydrography Cat B level on the approved course offered by SKILLTRADE Academy in Rotterdam in the Netherlands See *Annex F*.

The following attended:

Justus Amdavi	**Kenya**
Misan Andrianarison	**Madagascar**
Yannupdutt Bhoobeechun	**Mauritius**
Carlos Mariano Mugaua	**Mozambique**
Cliff Zelia	**Seychelles**
Robert Rweyemamu	**Tanzania**

A full report is attached and most candidates benefited from the course with one possible exception.

Future courses may be offered by the Southern African and Islands Hydrographic Commission (SAIHC), an official regional commission of the International Hydrographic Organisation, who have also assisted with this Project.

A.2.3 – Hydrographic instructions for port and approach surveys. Completed

Surveys of the Northern approach to Maputo and the Northern, Western and Southern approaches to Zanzibar were also completed during 2012. All data has been passed to the coastal States concerned and to their 'charting authority' See *Annex C.*

A.2.4 – Port and approach surveys. Completed

The port surveys of Mahajanga, Tamatave (Madagascar) and Anjouan (Comoros) have been completed by SHOM. See *Annex C.*

A.2.5 – Production of ENCs.

UKHO and SHOM have upgraded critical ENCs and will incorporate the route survey and other data on their paper charts.

In accordance with the requirements of the MTR, copies of paper and electronic charts (ENCs) will be passed to each of the participating States once these become available.

A.3. Aids to Navigation

A.3.1 – Inspection of Aids to Navigation (AtoN) sites. Completed

A.3.2 - Repairs or Upgrades to the AtoNs. See *Annex D*

The replacement of the lighthouse on Aldabra Island in the Seychelles was completed.

Due to delays in clearing the equipment through their Customs by the local authorities there was insufficient time to complete the light installation at Ponta Zavora Lighthouse in Mozambique. The lighthouse building has been repaired and the equipment is on site. It is now capable of having a new light and AIS base station fitted. The Mozambican Authorities are in direct contact with the contractors to complete the installation themselves. See *Annex D*

A.3.4 – AtoN Maintenance Training Courses.

A special course on Maintenance of AtoN was held in Durban from 8-12 November 2010 under the direction of SAMSA's specialist staff.
Future courses may be conducted by IALA and SAGNEP.

Activity												
Component A3 Aids to Navigation												
Item	**Year 2012**											
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
A3.1, Inspection of AtoN Completed												
A3.4, AtoN training Completed												
A3.2 Confirm and prepare tenders Completed												
A3.3 Repair or replace AtoN												
(Completed by 31 December 2012)												

Budget	
Item	**Year 2012**
Total Budget for Component A3	**US$ 475,000**

A.3.4 - Aids to Navigation training course

Held from 8-12 November 2010 in Durban, South Africa, seven delegates from four recipient countries attended the course. The course was intended to cover most of the aspects of the Aids to Navigation environment. The programme included a technical visit to the Port of Durban and to a lighthouse.

The delegates were of very diverse disciplines, ranging from technical maintenance and support, harbour management (Harbour Master) to maritime affairs / management.
It became evident that training of more people, more often, is required. A suggestion was also made for interpretation to take place to allow more non-English speaking persons to receive training.

The Project also resulted in the revitalisation of the Southern African Regional Co-Operation Group on Safety of Navigation and Marine Environment Protection (acronym SAGNEP) and will, with the assistance of IALA (International Association of Marine Aids to Navigation and Lighthouse Authorities), endeavour to sustain the progress made during this Project with the provision of training and advise to regional States. The IALA World-Wide Academy (WWA) held an Aids to Navigation Awareness Seminar back-to-back with the 3rd SAGNEP meeting.

"The Southern African ad hoc Regional Co-operation Group on Safety of Navigation and Marine Environmental Protection" (acronym SAGNEP) has been re-established and will, with the assistance of IALA, endeavour to sustain the progress made during this Project with the provision of training and advise to regional States.

Component D1 Port State Control

D.1.4 Port State Control Officers Courses

The first course covered the following subjects was conducted at the School of Port in Durban from 15th-19th November 2010:

Need for Port State Control, Main Elements of Convention Requirements, Documentation, Inspection of Ships, Port State Control Officers, Actions by Port States

A complete set of IMO documentation was provided for each student.

The following attended:

COUNTRY			
Comoros	Kassim Maudjoudi	Bacha Chefou	
Madagascar	Jean- Claude Rodin		
Mozambique	Paulo Charifo	Abilio Tome	
Tanzania	Selestine S Mkenda	Juma Seif Juma	Omary Kinange
South Africa	Paul Baxter	Alan Britz	Ayaz Queresh
	Plus Sivashanhar	Sreenivasan Vuyani	Hopewell Mkhize
	Kevin Moran	L L Jones	Francesco Charles
Additional	Armando Alvare	Marih Yulck	Sna Shankar
TOTAL			20

Having just completed a PSC Course organised by the Indian Ocean MOU there were no students from Kenya, Mauritius and Seychelles.

2nd Port State Control Officers Course

A second Port State Control and Hazardous and Noxious Substances Course was conducted at the School of Ports in Durban from 13-17 August 2012. Instructed by IMO experts and attended by 32 students. Seychelles-3, Kenya-2, Comoros-3, Madagascar-3 , Mauritius –3 Mozambique –3 Tanzania –4 South Africa –11.

A.4. Automatic Information Systems

Based on the findings of the consultants, appointed by the Project AIS base-stations were erected in Mombassa in Kenya, Zanzibar in Tanzania, Ilha de Mozambique and Inhambana (Ponta Zavora) in Mozambique (these where not installed due to equipment not having been cleared by Customs in time), at Mahajanga in Madagascar and in the Comoros. In addition portable AIS transcievers were fitted to two coastguard vessels from the Seychelles.

A.4.1 – Inspection of possible AIS sites. Completed

A.4.2 – Specification for AIS installations. Completed

A.4.4 – Installation of AIS stations. Final date 31 December, 2012.

A.4.6 –21 South African AIS sites are now operational and will provide continuity with the new AIS stations in the region. The system is financed by South Africa.

A.4.7-9. Repair Maputo AIS Base Station No longer a requirement

A.4.10. On-board AIS fittings on vessels. Completed

Activity												
Component A4 Automatic Information System (AIS)												
Item	Year 2012											
A4.1, Inspection of AIS sites Completed	1	2	3	4	5	6	7	8	9	10	11	12
A4.2 Specification preparation Completed												

A4.3 Repair or provide AIS Base Stations - Completed by Dec 2012												
Budget												
Item	**Year 2012**											
Total Budget 2012 for Component A4	**US$ 625 000**											

N.B. As planned AIS Base-Stations have been successfully installed and operational in Comoros (Moroni), Kenya (Mombassa), Tanzania (Zanzibar) and at Mahajanga linked to Antananarivo (Madagascar). The Maputo monitoring station and the base-stations intended for Illa de Mozambique and Ponta Zavora could not be installed due to equipment not having been cleared by Customs in time. The Mozambican Authority however is planning to have these installed at a later date.

A.5.1. <u>Develop communication links between MRCCs to ensure search and rescue operations in the region</u>.

While it is no longer a requirement to review the status of the communication links, necessary GMDSS equipment has been provided and installed in the MRCC in Mauritius. Completed

Activity												
Component A5 Support to Search and Rescue												
Item	**Year 2012**											
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
Items A5.1, Confirm Status of Sea and Rescue facilities	**Completed**											
	US$ 200,000											
Budget												
Item	**Year 2012**											
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
A5.1 Provide Global Maritime Distress Safety System equipment to Mauritius MRCC – Completed												
Total Budget 2012 for Component A5	**US$ 100 000**											

<u>A.6 Project Evaluation and Extension</u>.

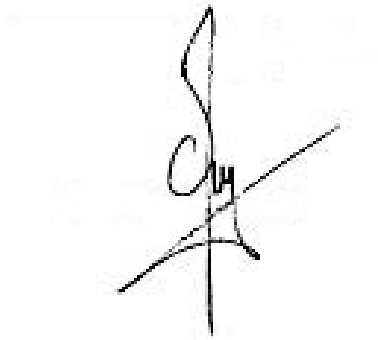
Consideration has been given to the sustainability of the Recipient States to maintain the standards attained during the Project and to develop the means of continuing the process and improving on it.
A number of key areas have been identified and informal discussions held with international and other interested bodies on how best to proceed.
It has become obvious that efforts, over many decades, to improve the maritime services in some regions do not reflect the final success rate.

The matrix *Annex E* indicates the linked process of these services and where assistance in the past has been given.
It was felt that more consideration should be given to the infrastructure and the awareness by the national authorities of their responsibilities in international law, conventions and in the interests of the coastal States to provide assistance to, or to control, maritime trade

Training methods invariably remove important staff from their normal posts and responsibilities for relatively long periods of time and there is usually no one available to replace them. On their return the same infrastructure is in place and the expertise gained as a result of the training is usually not retained or fully

utilised. Methods utilising internal, 'in-situ' training or 'virtual training' are possible and could result in the same knowledge being imparted while the recipient is still fully occupied and their services retained.

Activity												
Component A6 Project Evaluation												
Item	**Year 2012**											
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
A6.1 Prepare project evaluation documentation												
A6.2 Preparation of Phase II												
Under Consideration												
Items A6.2, Confirm Status of Sea and Rescue facilities												
Budget	**US$ 600,000**											
Total Budget 2012 for Component A6 US$ 600 000												



N.R.Guy
Regional Project Co-ordinator

11 March 2013

The Indian Ocean Commission has produced an extensive project completion report, which could not be reproduced in its entirety here. The following pages compile the sections of the IOC's completion report that are most relevant to this ICR.

Western Indian Ocean Maritime Highway Development and Coastal and Marine Contamination Prevention Project (WIOMHP)

Funded by the GEF (World Bank)

Loan credit number: - TF 090304

PROJECT ID No. P 07864

PROJECT COMPLETION REPORT

Components B and C

Prepared by the Indian Ocean Commission

Comoros, Kenya, Madagascar, Mauritius, Mozambique Seychelles, South Africa and Tanzania

FEBRUARY 2012

General Remarks

The expected result per component implemented by the IOC has been completed. Capacity development was key to these components and all the countries have acquired and or improved their capacity to respond to oil spill. NOSCP, dispersant policy, ESA map are in place in most countries although some are yet to be approved by the local authorities. Equipment has been provided to four countries namely Comoros, Mauritius, Mozambique and Tanzania.
Legal training has also been provided; four lawyers have been trained on maritime law at the IMLI University in Malta and several legal officers have received training to help them better understand the IMO conventions. Awareness on HNS protocol has been raised and national plan developed. At a regional level, the framework for the regional oil spill contingency plan is in place. It is a dynamic document that would require continuous update. All eight beneficiary countries have signed the regional agreement for cooperation in response to oil spill in the region. However despite the results achieved, countries and the region will still need assistance to compile, document and maintain environmental databases and GIS information.

The activities of the project started later than the original expected date and the implementation of most activities were also shifted. The implementation environment in most countries was adequate although

some challenges were encountered for example the political situation in Comoros and Madagascar. In other cases, the poor understanding of the support that is required from the beneficiary countries in preparation of national workshop caused some activities to be rescheduled or it had some impact on the quality of the exchange in the workshop for example some participants were expected to be remunerated. At the time of the midterm review, it was found necessary to extend the duration of the project to allow for completion of some activities. Most activities have been completed fully except for the regional implementation centre that is yet to be operational due to the administrative procedure in South Africa that was not foreseen.

Status of Physical Project Implementation with regard to meeting all the objectives of the project and by country

COMOROS

Institutional and Financial Arrangements

The Ministry of Transport and Communications is the National Coordinating Ministry for the project with the Ministry of Environment responsible for the implementation of the environmental components B and C. Neither ministry had made any budgetary provision to support the project. The PMU (IOC) had to provide all the support required at country level.

National Coordinator Monsieur SALIM SAID, *Directeur Maritime de L'Union des Comores*

General Remarks: The political-socio-economic situation has gradually improved since the start of the activities in 2009. One of the major project constraints with regard to implementation was the lack of resources put at the disposal of the National Project Coordinator by the Government of Union of Comoros. The National Coordinator did not even have the appropriate tools and facilities such as, a computer and had to use the local cyber-coffee shop to access the emails sent from Project Management Unit. Nonetheless the project managed to implement most of the activities with the support of the France/ Réunion.

Status of progress

1. **NOSCP**: the project has prepared four Oil Spill Contingency Plans, namely one at the National level and one for each of the three autonomous islands namely (i) Anjouan, (2) Grande Comoroo and (3) Moheli. These have been presented to the government of Union of Comoros as well as to the autonomous authorities of each island for formal approval.
2. **ESA (Tactical, Strategic and Operational)** maps have been prepared, printed and handed over to the office of the Vice President of Union of Comoros in September 2012.
3. **Policies on Dispersant**: Comoros has national policies on use of dispersant and this has been approved by the Government of Union of Comoros since 2004.

Number of persons trained under the project in various skills as well as project management run into hundreds over the four year period. Most national activities related to the NOSCP were supported by France through La Réunion. Comoros also benefitted from the regional trainings and support for the ESA maps through the services of BRL/OTRA.

Specific Constraints: The National Coordinator (CR) was not provided with adequate support by his Government for the management of the project in Comoros. Despite this very acute shortcoming, the NC did show great initiatives and endeavours to coordinate activities with all parties concerned including maintaining communication and follow up of activities with the three autonomous islands of Grande Comores, Anjouan and Moheli.

Institutional Problems

Comoros is one of the participating countries which has its particularities and specificities characterized by its limited financial resources and institutional capacity. The country has gone

through some changes at administrative and political level and this has also contributed to some implementation difficulties**.** One of the main problems associated with implementation of the project in Comoros was the limited political awareness, resources and facilities to implement the activities. Since the policy and decision makers were not sensitize at the start up of the project it resulted in low priority given to the project at national level. This was reflected through the quality of the facilities allocated to the national coordinator to follow up on the activities of the project, for instance basis facilities such as adequate office space, internet and telephone were minimal.

This problem could have been overcome, if at the start of the project, the project management team under the guidance of the regional project coordinator and the WB had effected a joint start up mission to this country to sensitize the government on the importance of the project and assess the local capacity to coordinate activities at national level. Based on the findings the project should have taken into account the specific condition of the country and be more flexible to provide assistance to the local authority to better follow up on the project activities. Neither the Regional Coordinator nor the representatives of the WB ever carried out a mission to this country during the implementation of the project to emphasize the importance of this project to alert the Governments at highest level of the importance of this project. As resources in Comoros are very limited, the project did not have a "priority status' and consequently no resources were ever allocated for the implementation of this project. The national coordinator did not have a proper office with the basic tools such as a computer / email / telephone for the implementation of the project.

Special Fund for the project

The creation of a special Fund was one of the conditions for the grant from the World Bank under the 1998 to 2002 project. Furthermore, it was a critical issue raised by the Institutional and Financial sustainability study in 1999 (previous WB funded project). The creation of this fund is imperative for the sustainability of the project and it is a matter of concern that even now in 2012, Comoros has not as yet confirmed nor indicated the creation of such a fund.

At the meeting the SRPC had with the Minister of Interior and Defence and acting Minister of the Environment on 22 September 2010, the minister had stated that the Government of Comoros has agreed to create a special fund for the project in the 2011 Budget. However, this was conditional to the approval of this budget by the to-be newly elected Government in December 2010.

As at the time of the writing of this report, no sustainable FUND has been set up in Comoros

Oil Spill Response (OSR) Equipment: Union of Comoros was provided with Oil Spill Response Equipment in 2002. However, during an uprising the equipment in Anjouan was destroyed and hence this autonomous island had no equipment to deal with any spill. It is to be noted that the port of Mutsamudu in Anjouan is the main port with deep water berthing. Under this project at Mid Term Review, a decision was taken to provide Anjouan with a set of OSR equipment comprising 200 meters of booms etc to deal with a Tier 1 spill..

This was officially handed over to the authorities represented by the Vice President of Union of Comoros and the governor of the island of Anjouan on 21st September 2012. Comoros have Oil Spill Response Equipment to deal with a tier 1 (up to 50 tonnes of Oil) incident in each of the three islands of Anjouan, Grande Comoros and Moheli.

HNS National Plan: A national workshop was held from 5 to 7 April 2012 in Moroni with participants from all three islands and a national HNS plan was prepared with the assistance of an expert from IMO. This plan is yet to be approved and adopted by the authorities.

ESA maps: ESA maps have been prepared for all three countries and have been technically adopted approved and handed over to the Vice-President on 21 September 2012.

Revision and updating of NOSCP of Union des Comoros and the three respective islands were carried on two occasions in 2009 and in 2012. On both occasions, over one hundred national participants were also trained to forecast oil drift during a spill, preparing local containment plans as well as in the skills of deploying their Oil Spill Response Equipment.

Experts provided by France Reunion, were the main resource persons used for the revision of the plans, for training of national and for testing of the islands plans.

Sustainability
The Government of Comoros has the very good intention to sustain the activities of the project but the lack of resources is a challenge. The trained personnel available is an asset that Comoros would need to make good use of. However, France/ Réunion have offered to continue providing support to Comoros.

KENYA

Institutional and Financial Arrangements.
The project was placed under the responsibility of the Ministry of transport of Kenya and the national coordination was delegated to Kenya Maritime Authority and the national focal point is based in Mombasa. NEMA which is the National Environment Management Authority based in Nairobi was identified to contribute to the project.

National Coordinator: MRS NANCY KARIGITHU, **Director General**, **Kenya Maritime Authority**, Mombasa, Kenya

General Remarks
All activities have been finalized in Kenya despite the late nomination of the national coordinator. The National Coordinator, a very high profile person was only nominated in August 2009 after various attempts by the project management unit of the IOC. As the DG of KMA and as the chair of committees at IMO in London at that time, the effective coordination was lead by the deputy Mr. Peter MBIRIRI, Marine Safety Officer at KMA lacking. Communication and coordination with Kenya was not that effective until late into the implementation phase. The situation led to rescheduling of activities at various occasions. However, on the positive side, the Kenyan Oil Industry Association (OSMAG) was very keen and willing to participate and bring their contribution for the revision of the NOSCP.

Specific Constraints
The project at national level was coordinated through the Kenya maritime Authority based in Mombasa**.** One of the initial problems with the implementation was the huge delay in the nomination of the National Coordinator to lead the project. This problem was only resolved after the SRPC had a meeting with the Minister of Transport of Kenya in August 2009 in Nairobi. Up to that point Mr. Peter Thuo, Director General of Maritime Services of Kenya based in Nairobi was deemed to steer the implementation of the project. However, his direct involvement in the project was limited.
At the meeting with Minister Hon. Ambassador Chirau Ali Mwakwere in August 2009, the SRPC made a presentation of the project and asked for the Government's support and subsequently, Mrs Nancy Karigithu, the DG of KMA was appointed.

Status of progress

1. **NOSCP:** A National Technical Working Group was set up to review the draft NOSCP in March 2010 and again in September 2011. On both occasions the PMU had provided technical assistance to help the revision process. Once the NOSCP was finalised, Training for TIER I and Tier II were delivered to nationals in Mombasa. Furthermore, the NOSCP was desk top tested in September 2011. In May 2012, a full scale exercise was organised to test the NOSCP with deployment of Oil Spill Response equipment

2. **ESA**: a national workshop was organised in June 2010 and again a national working Group was set to work on the preparation of the ESA maps under the supervision of the BRLi/OTRA consultant. The NTWG got the job done through various working sessions which were supported by the project.

3. **Policies on Dispersant**: again, a workshop was held and guidelines and a road map was prepared and given to Kenya in 2010. The authorities are now supposed to validate the policies for incorporation in the NOSCP.

Development of Ecosystem valuation methodology: Kenya participated in both regional workshops held in December 2010 in Mauritius and that of July 2012 held in Dar Es Salaam. National coastal experts had been assisted and provided with lead to prepare the appropriate national ecosystem valuation methodologies.

HNS PLAN. The national HNS plan was prepared at a workshop organised by PMU on 5-7 March 2012 in Mombasa. Kenya therefore has a National HNS plan. Arrangements were in place to ratify the OPRC 90 and the HNS2000 protocol

Interest to host RCC: Kenya had shown keen interest to host the RCC and had submitted their offer for consideration, assessment by the independent team composed of UNEP, IMO and REMPEC.

Lawyer trained at IMLI: A national lawyer nominated by the Ministry of Transport namely Mr. Omar Ahmed Ali was sponsored by the project to read for a Masters Degree in International Maritime Laws. The purpose of funding his one year's study was to provide specialized capacity to better manage and service the IMO Conventions and more specifically for the domestication of IMO conventions.

Number of persons trained: some 80 persons have been initiated to the NOSCP process for the revision, updating and testing of the NOSCP

Total number of persons involved in the project through workshops/training: over 150

Sustainability
Kenya is one of the countries with a good level of capacity and well equipped to continue with the activities after project completion; it has put in place a program for training of its officers. It will work closely with OSMAR.

MADAGASCAR

Institutional and Financial Arrangements
The Ministry of Transport of Madagascar is the focal Ministry for the project. OLEP is the National Centre for NOSCP created under National Legislation in 2003 and is funded through a national tax of 5 MGF per litre of fuel imported in Madagascar. For the components B and C, the project worked closely with OLEP which is the national institution responsible for oil spill management and also it was mandated by the Indian Ocean Council of Ministers in 2004 as the sub regional coordination centre to respond to oil spill in the sub region.

National Coordinator: Mr. Raniriharison Fetra Harilanto, Director for technical and Security Services of the Agency for Port and Marine and Mr. Roland Rakotondrasata, Director of OLEP

General Remarks
OLEP (*Organe de lute contre la pollution*) is the national and the only dedicated and full time legally set up Organisation to deal with Oil Spills. It is based in Antananarivo and is the sole agency dealing with and implementing the project on behalf of the Government of Madagascar. They are accountable and answerable to the Ministry of Environment.

OLEP is self financed through a levy of 5 Malagasy francs per liter of fuel oil imported into Madagascar. This has been in place since 2002, under the previous WB funded project. They have adequate resources, many vehicles, own their office building and generally do a very good job of revising and updating the local plans, training people in the districts. OLEP is highly visible in Madagascar as most of their activities and events are well covered by the national and local media.

Specific Constraints
The only constraint noted was that the Directors of OLEP hang on to the National Oil Spill Plan rather than creating self sustaining units for oil spill management at local levels. However, during the project implementation, this issue was addressed and marked improvement in communications between OLEP and the Provinces had been noted and effectively made.

Status of progress:

1. **NOSCP**: Madagascar has a national and 12 other provincial and local plans. They also have a fully dedicated and full time team of nationals who permanently go round training and updating the NOSCP. They also have local OSCPs and have created a lot of capacity to deal with spills at District levels.

2. **ESA:** The National Technical Working Group with (ONE) Organisation National de L'Environnement) as lead agency has prepared the Tactical, operational and Strategic sets of ESA maps.

3. **Policies on use of Dispersant:** National policy on use of dispersant has been worked out with the assistance of the project consultant since 2010 and is now adopted at National level by the National Authorities.

4. **Development of Ecosystem valuation methodology:** Madagascar has participated in the two regional workshops for the development of ecosystem valuation methodology. After review of the various international and regional Ecosystem valuation methodologies, Madagascar has prepared and adopted its national methodologies. This economic tool will be widely used by the ministry of environment for the purposes of EIA and other environmental assessments exercises.

5. **Interest to host RCC:** Madagascar had shown interest to host the RCC as they had been running the sub-regional coordination office, created under the 1998-2002 WB funded project.

6. However, when the trio of International organizations comprising IMO, UNEP and REMPEC made an assessment of the four countries (Kenya, Madagascar, France and South Africa) proposals to host the RCC, South Africa' offer was found to be the best and was selected to host the RCC. Madagascar has expressed its intention to revitalise its sub regional centre, to work closely with the RCC in South Africa and has offered to conduct regional exercises.

7. HNS plan: Madagascar was the first country to have prepared its national HNS plan following a national workshop in the capital. They have also prepared the instruments to ratify the OPRC 90 and HNS 2000 protocol but this has not been possible because the present Government is not internationally recognized.

Sustainability

Madagascar has a well organised set up and has the capacity to continuously provide training for the update of the NOSCP. It also has the capacity to conduct national exercises and has offered to assist in conducting the regional exercises and the coordination with the island states are mandated by the Council of Ministers of the IOC in 2004. Nonetheless it will still require support for some specialised expertise and equipment s for specific actions

MAURITIUS

Institutional and Financial Arrangements
The project was placed under the responsibility of the Ministry of National Development, Infrastructure, land transport and shipping. However, the Ministry of Environment has the responsibility for the NOSCP.

National Coordinator: Premchand Bhowon, Secretary for Shipping, Ministry of Transport,

General Remarks:
Mauritius has been able to implement all the activities programmed under the project. The participation in the project implementation has been very broad based with most authorities involved as well as the University of Mauritius which played a leading role in preparation of the case studies leading to the adoption of appropriate ecosystem valuation methodologies for the region and for Mauritius in particular.
Mauritius was also able to secure much needed high seas booms and other ancillary equipment following their request made during the project Steering Committee meeting in December 2011.
Mauritius is one of the countries that has good level of capacity to combat oil spill and has included in their national budget funds dedicated to activities pertaining to oil spills and to participate in regional efforts.

Specific Constraints.
Initially some difficulties were encountered by the National Coordinator, who is from the Ministry of Transport to coordinate the implementation of environmental activities under components B and C. However, the Ministry of Transport, through the lead role played by the Permanent Secretary, ably managed to galvanize all the multitude of agencies and ministries to work together. The Ministry of Environment, Ministry of Housing and University of Mauritius played important roles during implementation f the project.

Status of progress

1. **NOSCP:** NOSCP was revisited and updated in June 2010 and in 2012 with the assistance of experts provided by the project. Furthermore the NOSCP has been fully tested, and training of nationals for Tier I and Tier II were carried out in September 2010. Tier III training for the leading persons was provided in December 2010.
2. **ESA**: ESA maps have been prepared by the GIS unit within the Ministry of Housing and Lands and supported by the expert provided by the project. These ESA maps have been printed and handed over to the Mauritian Authorities in December 2012
3. **Policies on Dispersant**: national policies on use of dispersant already existed but the Project had provided an expert to review the same. New Policies have been technically approved and remain to be approved by the highest competent authorities.

4. **Development of Ecosystem valuation methodology:**

Mauritius has very actively participated in both regional workshops and was one of the leading research groups in the development of the regional ecosystem valuation methodologies. The Mauritian team was lead by the University of Mauritius. It is to be noted that UoM has also been doing similar researches and had contributed very much in this regional process. Furthermore, University of Mauritius runs courses in environmental economics and could still play an important regional role in the future in the further fine tuning and propagating of the use of this methodology in the assessment and CBA of projects in environmentally sensitive areas, e.g. when carrying out EAIs etc.

5. **Number of persons trained:**

Over 200 persons have been trained at national levels in the preparation of NOSCP, on the roles and responsibilities of interveners and in the science of oil spill management.

6. Ratification of the conventions:

Mauritius has ratified all the IMO conventions that had been targeted by the project such as OPRC 90, CLC92 and International Funds of 92. However, these IMO conventions still needed to be incorporated into the Marine related national laws. The Government of Mauritius is in the process of doing so.

Sustainability

Funds have been incorporated in the national budget to support activities post project completion.

MOZAMBIQUE

Institutional and Financial Arrangements:

INAMAR is the lead agency for this project under the aegis of the Ministry of Transport of Mozambique. The project has had many meetings with the Permanent Secretary of the Ministry of Transport (who had actively opened and closed all workshops) to make budgetary provision for the sustainable management of the oil Spill/HNS national plans during post project closure period.

National Coordinator:

Captain Mario Guilherme from INAMAR from 2009 to March 2012. From March 2012 to December 2012 Mr Albano Gove has been the new NC. The handing over was not done under the best of conditions and it took some time before the new NC got going.

General Remarks:

Mozambique is a Portuguese speaking country and this presented a challenge to the project management unit, as the PMU had to have most documents if not all translated into Portuguese as well as run all workshops and training programmes in Portuguese. Despite untimely change of National Coordinator during the fourth year of project implementation; all the objectives of the project were fully met. Ports of Maputo, Beira and Nacala are equipped with Tier I Oil Spill response equipment comprising of 200 meters of booms etc. Furthermore, INAMAR had invited the oil industry as well as the port authorities to participate in the project.

The project also understands that INAMAR would be entering into a contractual agreement with a private company, SubTech of South Africa, to respond to any future oil spills.

Specific Constraints:

Mozambique is a country with extended shoreline. The size of the country and working with the various ports and various local INAMAR representatives proved to be a major challenge both in terms of travel and cost and meetings/workshops organisation. It is also to be noted that initially for the first three years of the project, all activities were only carried out in Maputo.

Only during the fourth year that Maputo decided to decentralize the preparation of local plans and empowering the local authorities in this respect.

Due to social unrest and violence in the streets of Maputo, all missions to Mozambique were put on hold from June 2010 to January 2011.

This caused major delays and dislocation of activities already planned and scheduled.

Status of progress:

1. **NOSCP:** NOSCP was revisited and updated in June 2010 and in 2012 with the assistance of experts provided by the project. Furthermore, the NOSCP has been finalised and submitted to the authorities for approval and adoption. Training for Tier I and Tier II oil spill were carried out in September 2010. Tier III training for the leading persons was provided in December 2010. Full scale exercise to test the NOSCP was organised in September 2012 in Maputo.

2. **ESA**: ESA maps have been prepared with the participation of CENECARTA and INAHINA. The latter had undertaken to make prints of these at Cenecarta for circulation to appropriate authorities.
3. **Policies on Dispersant**: national policies on use of dispersant were first prepared in June 2010 and the project supported the national ministry of Environment to run national consultations for technical approval. This is being adopted after approval by the cabinet of ministers.

4. **Development of Ecosystem valuation methodology:** Mozambique did not participate in either of the two regional workshops for the development of ecosystem valuation methodology. The nominated participants for the first workshop did not turn up at the workshop. Therefore, as the second workshop was a follow up of the work started at the first workshop, Mozambique did not participate in the second workshop either.

5. **Number of persons trained:** Details on participants who had attended the numerous workshops/ training sessions organized in Maputo, in Beira, in Nacala and at regional levels run into hundreds and are given in various reports.

6. **HNS Plans:** a national workshop was organised in February 2012 following a regional workshop held in Mombasa in 2011 and consequently a national HNS plan was prepared and adopted

7. **Training of lawyer as a specialist in Maritime International Laws.**
   Ms. Susan Tembe was nominated by INAHINA (Ministry of Transport) to follow a Master's course at IMLI. She is now the specialist in IMO (maritime) conventions and provides all inputs with regard to servicing, domestication of these conventions.

Sustainability

Provision has been made in the national budget to support activities related to oil spill. Mozambique is expecting to enter into an agreement with a South African company to provide assistance. Assistance shall also be provided by the US Coast guard.

SEYCHELLES

Institutional and Financial Arrangements
At the start of the project implementation, the Ministry of Transport and Environment was the project implementing authority. Latter the portfolio for Environment was shifted to another Ministry but the project remained under the responsibility of the Ministry responsible for Transport. The Ministry of Environment has the responsibility for the management of NOSCP and a very good level of support was provided by the legal officer of that Ministry to boost up activities at national level. The required special fund to support the implementation of the project was not in place at the time of project closure despite repeated requests to do so.

National Coordinator
Captain Joachim Valmont, Director General of Seychelles Maritime Safety Authority. However, effectively for the purposes of implementation of components B and C, Mr Joubert Flavien of the Ministry of environment was the lead person.

Captain Ernesta was the national focal point at the start of the project but was replaced by Mrs Fiona Robinson, the Director General of Seychelles Maritime Safety Administration from 2009 to 2010. There was another change in national coordinator and from 2011 to 2012, was the National Project Coordinator.

Specific Constraints
No specific constraints were encountered as the high level authorities were always kept informed by the SRPC. The permanent liaison officer to the IOC from the Ministry of Foreign Affairs played a very important and active role in ensuring that the authorities were kept informed of progress made for the activities under implementation as well as the constraints and bottlenecks encountered. However, the change of national coordinator slowed down some of the activities but it was not difficult for the country to pick up due to its experience in addressing matters related to oil spill. It is to be noted that during the duration of the project, the Seychelles had changed the National Coordinator three times. This was due to the high level of mobility of staff and changes in the government structure.

Status of progress

1. **NOSCP:** NOSCP was revisited and updated in June 2010 and in 2012 with the assistance of experts provided by the project. Furthermore the NOSCP had been tested and training of nationals for Tier I and Tier II were carried out in September 2010. Tier III training for the leading persons was provided in December 2010. Successful Full Scale Exercise to test the NOSCP was organised in June 2012.

2. **ESA**: ESA maps have been prepared with the participation of GIS department of Seychelles.
3. **Policies on Dispersant**: national policies on use of dispersant were first prepared in June 2010 and was adopted by the GOS

4. **Development of Ecosystem valuation methodology:** Seychelles participated in the first regional workshop in Mauritius and the three participants did not prepare the required national papers nor collected any data to be used in the development of the regional and national ecosystem valuation methodologies which were deemed to be inputted at the second regional workshop. Consequently, they did not participate in the second workshop despite being invited to do so. Seychelles would require more in house assistance to train the nationals on the application of the methodology.

5. **Number of persons trained**

   Participants from various ministries including all staff of Department of Risk and Disaster management (DRDM) and members of coastguards participated in all workshops, all training programmes for Tier I and Tier II. Selected high level officials were trained at level Tier III and also as trained Trainers. Over 100 persons were trained in Seychelles.
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Sustainability

Seychelles has out in place a national disaster management committee and funds have been earmarked in the national budget to support some activities related to oil spill. The Seychelles will also benefit from on ongoing collaboration with the US Coast Guard

SOUTH AFRICA

Institutional and Financial Arrangements:
The department of environmental affairs and water was designated as the authority to coordinate the activities of the project at national level. It is also the Ministry responsible for the office of the national focal point of the GEF and recipient of the project Grant.

National Coordinator: Dr Yazeed Peterson of Department of Environmental Affairs

General Remarks
South Africa had not been very active at the start of the project. There was some confusion as to whether they were to participate at their own cost {because of the fact that some countries with a high GDP do not

qualify for WB funding}. This point was clarified during the Inception Project launch in 2009, in Mauritius. Thereafter, South Africa identified their needs for activities for components B and C, which were mostly the same as for the other participating countries.

Another major delay was on account of the Football World Cup organised in South Africa. South Africa had indicated that they did not want any activities organised before the end of the football world cup, in July 2010.

Specific Constraints
The main concern was the eligibility of SA to the funds and the project was challenges by the administrative procedure for approval and decision making specifically with regarding the regional agreement and the hosting of the regional coordination centre for oil spill response.

Status of progress

1. **NOSCP**: the National Oil Spill Contingency plan was revised on two occasions with the assistance of experts provided by the project. Numerous recommendations were made to complete the plan. However because of institutional reforms with regard to responsibilities for dealing with oil spills by coastal local authorities, another level of consultations and agreements on the set ups were needed and this is still ongoing at this stage of the project.

2. **ESA:** South Africa had indicated that they would prepare the ESA maps themselves and did not need assistance from the project

3. **Policies on Dispersant:** South Africa had its policies on use of dispersant

4. **Development of Ecosystem valuation methodology:** Three participants from South Africa participated in the first Regional workshop held in Mauritius. One participant was from University of Cape Town and the other two were private sector. Environmental consultants. At the workshop, a work plan was adopted to prepare national reports and to carry out case studies etc. Unfortunately, the South African participants, who had attended did not participate in any of the set assignments. Despite, many reminders to participate in the process for the second regional workshop which was going to adopt the regional valuation methodologies, South Africa did not take any part in the rest of the activity.

5. **Interest to host RCC:** South Africa was one amongst other three countries also interested to host the RCC. An independent team comprising IMO, UNEP and REMPEC had recommended South Africa to host the RCC. However, internal administrative issues have not been finalised to enable the RCC to become operational as at end of November 2012.

6. **Number of persons involved in the project through workshops/training:** over 60

7. **HNS plan:** Following regional and national workshops, South Africa had prepared in February 2012 its national HNS plan. South Africa had also indicated its intention to ratify the HNS convention, as the country is a major manufacturer and exporter of chemical products.

Sustainability

South Africa will continue to finalise the National Oil spill contingency plan and put in plan the remaining regional plan through its own budget. SAMSA will through its own funds finance the RCC

TANZANIA

Institutional and Financial Arrangements
The Ministry of Transport and more specifically through SUMATRA is the lead agency for the project. The national Environment Management Council (NEMC) is the national institution responsible for environmental affairs and support for the project was also provided by NEMC.

National Coordinator: Capt. King N. Chiragi, Director of Maritime Safety and Security – SUMATRA email: king.chiragi@sumatra.or.tz
Focal person for the environmental components: Ms. Rose Sallema Mtui - Senior Environmental Management Officer working under the Directorate responsible for Environmental Planning and Research, the focal point for the environmental components. nrsallema@yahoo.com

General Remarks: The activities in Tanzania start off very slowly nonetheless the activities picked up towards project completion and all the activities in Tanzania had been carried out. It is one of the countries with experience in ecosystem valuation method and has hosted the regional workshop on ecosystem valuation. Tanzania has hosted two missions to-date and three national technical working groups have been set up to work specifically on three products which are as follows: (1) NOSCP, (2) ESA, (3) Policies on Dispersant. Zanzibar was not much involved in the project, a few officers were training on NOSCP but it is to be noted that Zanzibar does not have a plan.

Specific Constraints: The activities in Tanzania started off very slowly and it took time before Tanzania was fully involved in the activities. There was a perception that the Authorities at National level are not involved and therefore the strong message coming from the top is missing. Consequently, those involved in the implementation view this project as another add-on to their usual responsibilities and provided the necessary inputs, as and when they could. Often, scheduled activities under the project had to be rescheduled. This heavily impacted on the implementation at national level and led to postponement of activities and in taking of decisions. The points highlighted could have been overcome if at the start of the project implementation, the project management team including the World Bank had conducted joint inception meetings in Tanzania to better understand the procedure in place and to sensitize the decision makers.

Status of progress

1. **NOSCP**. The existing draft NOSCP was revisited and updated in June 2010with the assistance of experts from BRLi/OTRA. A National Technical Working Group was set up to take onboard the recommendations made at the workshop and to complete the NOSCP. The NOSCP was again revised in 2011 and again recommendations were made for the authorities to take on board the recommendations. The main missing component in the NOSCP was with regard to the OPERATION aspects of the plan. It needed to define how information is channelled to the authority from the time a spill is observed. Next it was important to define what happened to that information, who evaluates this information and what action is taken? Is there a need to mobilize resources and if so who does what? It needed to compose the various cells such as who would be in the evaluation team? Who would be in the operational team? Who would be in the Logistics cell? Who would be in the Financial and Historical teams? This SUMATRA had still not done in November 2012.

2. **Testing and Training for Tier I and Tier II** - National training for the onsite responders and On Scene Commanders and for the National training of the personnel of the National Incident management organization were organised in country in 2011.

3. **ESA:** a national workshop was organised and a road map was prepared at the workshop and a NTWG was set up to prepare the ESA maps in 2010. Thereafter progress was very slow. In June 2012, the technical working group was reactivated and a national workshop was again organised and this group was able to prepare and technically validate the Strategic, operational and the tactical ESA maps for the coastal areas of Tanzania. These have been technically adopted and widely circulated to the various ministries for final comments and approval. This is also posted onto the NEMC website for viewing by a wider public and onto the Nairobi Convention website.

4. **Policies on Dispersant**. The draft national policies discussed and proposed in July 2010 is still under discussions between the Vice President Office, NEMC and SUMATRA. As advised by vice president's office that the draft policy would have to go through an appropriate regulation prepared under the Merchant shipping Act. SUMATRA would have to take a leading role in developing the regulation via the Merchant Shipping Act of 2003.

5. **Development of Ecosystem valuation methodology:** the second regional workshop was held in Dar Es Salaam because in Tanzania there are a large number of mangroves where numerous informal large scale economic activities take place in them. Therefore by holding the workshop in Dar Es Salaam, the participants were able to visit one of these mangroves and get a very good feel for the need to evaluate economic values of such sensitive areas, that are host to a lot of 'economic" assets.

6. **Interest to host RCC:** The Government of Tanzania had informed of their none intention to host the regional coordination centre in October 2010

7. **Oil Spill Response Equipment handing over in June 2012 in the port of Tanzania**. The project has provided Tanzania with basic oil spill response equipment as a starting point to enable Tanzania to be able to deal with a tier I spill. The philosophy being that Tanzania will appreciate the need to build on and add to this lot and be in a state of preparedness at all time to deal with a spill and especially to contain and manage a spill at the very start of a spill**.** The OSR equipment comprising of 200metres of 750 mm deep self inflated (foam filled) with skimmers, storage tanks, absorbents, PPEs etc are kept in three trailers ready to be mobilized to any site where a spill might occur. The OSR equipments are in the custody of the Tanzanian Port Authority.

8. **Lawyer trained in International Maritime Laws:** Lawyer Ms Asma Salemeni was selected and proposed for training at IMLI by the Ministry of Transport of Tanzania. She followed a one year full time course to the level of Masters in International Maritime laws. On return to Tanzania, she became an important legal resource person especially with regard to the domestication of the IMO conventions.

9. **Number of persons involved in the project through workshops/training approximately 300 plus**

10. **Sustainability**

    Provision in the national budget will be made to support the activities. None the less support would be further required to better equip the port of Dar es salaam and actions on Zanzibar. Tanzania is one of the countries that would need more assistance.

MAJOR LESSONS LEARNT, AND RECOMMENDATION

4.1 Coordination

The agreement between the participating countries and the World Bank on the implementation of the project was obtained in 2006. The participating countries individually signed a Memorandum of Understanding with the Worlds Bank in which the countries agreed to participate fully in the project. The project appraisal document (PAD) was approved by the World Bank in April 2007 and the grant agreement was signed in September 2007. The process for the recruitment of the project sub regional coordinator to assist the IOC with the project implementation was launched and the coordinator effectively in position in 2008. In order to further assist the IOC in the implementation of the activities, a contract was established between IOC and BRL/OTRA in 2009. The PMU at the IOC was placed under the responsibility of a charge de mission nominated by the Secretary General to represent the regional authorizing officer. The secretariat also provide secretarial and support for accounting. The PMU was sufficiently well equipped to perform its duties. The establishment of the project Unit for the overall coordination of the project based in SAMSA South Africa took some time and the coordination mechanism between the two implementing institutions suffered some set back. There was the need to improve on communication to facilitate its implementation. The project coordinator based in SAMSA had a bigger role to play in the overall project implementation. The link and exchanges with the grant recipient South Africa should have been reinforced during the project implementation. More project management meeting between the two implementing institutions and the recipient of the grant South Africa could have been organised.

Coordination of activities with the recipient countries was satisfactory although there have been cases of delayed responses from the countries which led to activities being rescheduled or delayed. The project launch and the steering committee had to be rescheduled due to lack of responses from the recipient countries. In other cases, not all countries were present due to short comings in the preparation of the meetings and flight logistics.

4.2 Support from the World Bank office

The project appraisal phase was conducted from 2004 to 2007 under the guidance of the World Bank. The project was originally being supervised by the World Bank office in Washington responsible for the Africa Bank for East Africa. Various visits to the participating countries and the regional consultative meetings were organized and supported by the bank. These meetings in which the bank played a very instrumental and effective role helped to clarify a number of issues regarding the co financing and to agree on the implementation arrangements. It also helped to get the consent of the countries on the appraisal of the project. There was a change of the project manager at the World Bank office almost one year after the grant agreement was signed. The World Bank office in South Africa responsible for a number of Eastern and Southern African countries had the responsibility to supervise the project and the support provided has been satisfactory. The request for approval and the delay in obtaining the non objection of the Bank for procurement was adequate. The supervisory missions both operational and financial were appropriate and timely. The financial supervisory mission provided much desirable guidance for the management of the grant.

4.3 Project Steering Committee

In accordance to the project appraisal document, the Steering committee comprising of senior officials responsible for transport or Environment or both of each beneficiary country, the chief executive of SAMSA, the Secretary General of the Indian Ocean Commission was to meet as required but at least once a year to monitor the overall implementation of the project. The committee met four times during the timeframe of the project. The first steering committee is the forum for the senior officials from the Ministry of Transport or and environment of the participated countries to meet and assess the progress made on the project. It is a forum whereby the technical and political aspects of the project is converging and provide guidance for its implementation. The first steering Committee took place in 2009 after the dates had been postponed on several occasions, two years after project effectiveness. The first steering Committee was also considered as the launch of the project but it did not bring together all the participating countries. The representation of the countries and member ship to the Committee were corrected at the second meeting held in Mauritius. Although the PAD gave clear indication of the

composition of the Steering Committee, it was always a challenge to organize the meeting and the number of representatives per country. The need to bridge the gap between the shipping and the environment department became very apparent, therefore the need to relook at the composition of the steering committee in order to enhance its effectiveness and to bring the desired output. A special session of the committee was organized in December 2011 in which decision makers at the level of Permanent Secretaries of the Ministry of environment, shipping, Foreign Affairs and the judiciary were invited. The session was important as a decision on the Regional coordination centre was required and also to discuss the sustainability of the project output post project completion.

4.4 National commitment

The project appraisal was conducted in 2004 to 2005 and in 2006 all the participating countries had signed the MOU to partake fully in the project. The MOU although of a general nature had provisions for the participating governments to provide inputs to facilitate the project implementation at national level. France on behalf of Réunion Island, a member of the Indian Ocean Commission, was also fully engaged and contributed in the implementation of the project but due to its particular status it was not required to sign the MoU nor would it benefit from the grant. However it has contributed immensely to the implementation of activities under component B and C in Comoros and Rodrigues Island of Mauritius. It also funded its own participation to the steering committee and the various regional workshops organised under the respective components.

A national coordinator from was appointed in each country to support the project implementation at national level. The national coordinator was an employee of the respective government who provided his services from its respective work station. In some countries, an alternate national coordinator was also designated and was mostly representatives from the Ministry of Environment. Other than the appointment of the national coordinator, it has been observed that generally most of the countries have not been able to meet all their obligations under the MOU and furthermore some countries took time in nominating their national coordinator. The low commitment of the countries could be a result of various factors:

i. The late start of the project. It took a long time between the project appraisal and the effective implementation of the project and by then there has been changes of personnel involved in the process and as a result could have led to gaps in information dissemination at national level.
ii. The implementation modality was not made clear to the countries; there were inadequate sensitization activities at institutional level therefore leading to inadequate information available to policy and decision makers.
iii. There is a general lack of coordination at national level between the ministries involved in the project. There seems to be no internal reporting system to highlight to the highest authorities the benefit accruing from the project

The implementing institutions could have been more proactive in sensitizing the governments at the offset of the project implementation. At the inception phase of the project, the two implementing agencies along with the project coordinators could have undertaken joint visits to the participating countries to introduce the project and assess the situation in each participating country. However, the above mentioned situations gradually improved in some countries and better results have been obtained. Most activities in the countries are completed. In countries like Mauritius, towards the third year of the project implementation; the national authority was fully engaged in the project, funds were committed in the budget to support the RCC. In Kenya, more stakeholders were mobilized and partake in the project. In Madagascar despite the current political situation prevailing in the country, the National Centre has been able to implement a number of training and exercises at national level and in the various ports. The centre was also prepared to host and co finance the first regional exercise to test the regional plan but the request was not approved by the Bank due to the timing of the activities which was close to the end date of the project.

4.4.1 Recommendations

The overall implementation of the project has been satisfactory. The fact that there were two project management units with distinct components to implement , the project was often perceived as two different projects and it brought about some confusion at the start of the project This set of recommendation is aim to provide guidance for improved implementation of complex regional projects.

- A national steering Committee supported by the project could have been encouraged as a forum for information sharing and enhance coordination at national level. It would also help to raise awareness and mobilise political commitment at national level.
- The situation in each country should have been taken into consideration to establish the level of support that the project could have provided for the coordination of activities at national level. The level of development in each country differs and the national administrative structure is also divers. Most of the participating countries are characterised as low income earning countries.
- Joint visits to the countries by the project management units should be encouraged to meet with the governments officials and to raise the political awareness. It would have help to clarify the status of the project at national level and more synergies between the implementing agencies.
- The implementing agencies and South Africa, as the recipient of the overall grant, should have established formal exchange mechanisms for monitoring of the project and it would have help the Authorities in SA to better understand the hosting of the Regional Coordination centre.

4.5 Implementation Schedule

The effective implementation of the project started almost one year after the grant agreement was signed. It also took some time for the countries to nominate their national coordinator and in the absence of a national coordinator it was difficult to commence the activities on time thus leading to delays in implementation and therefore impact on the end date of the project. The project picked up its momentum almost three years after the original implementation date. At the midterm review, the need to extend the project completion date was established. An extension period of 18 months was approved which brought about a reallocation in the budget of the project. The amount allocated to the components B and C were increased to further support the activities under the two components. This extension and revision of the budget allocation was useful to allow the completion of most activities and also to meet the emerging needs raised in some of the countries such as the request for equipment for Mauritius and all activities pertaining to the HNS protocol which was initially not foreseen in the project.

4.6 Communication and sensitisation

Communication around the project has been fairly good. The project website **Wiomprcc-ioc.org** had much to do with it. All the activities implementation reports together with selected pictures of activities and participants were regularly posted on the website. The website provides most of the project information in both English and French. Furthermore, media was always invited to cover and report on the activities in the respective countries. Media coverage in Comores, Madagascar, Tanzania and Seychelles were excellent.

Also articles in the IOC newsletter were posted occasionally, the local media were invited to capture the national regional workshops were also and in certain countries, the national activities were broadcast over the national media. Visibility at international level was limited. The IOC participated in the International waters conference in Cain, Australia and a video clip which comprise of an interview by the sub regional coordination was posted on line. The IOC had developed information brochure, flags for the organizations open day and exhibition in 2010. The development of the website was originally not foreseen in the project but the need for information dissemination has become apparent so as to sensitize

the various stakeholders, general public on the project. It is the tool for communication to a wider public which needs to be sustained for dissemination of information to sensitization the general public and the maritime community. Upon project completion the website is expected to serve as the main regional website for information on maritime navigation and pollution. It is expected that the website will be the communication tool for the Regional Activity Center or better referred to as Regional Coordination Center established under the project. Since the RCC is not yet operational, the IOC has taken the decision to transfer most of the information and data onto its web portal.

4.6.1 Recommendation

- Communication around the project could have been more active, the implementing agencies should have jointly put in effort to communicate more on the project and to produce joint communiqués on the activities of the project.
- The RCC in SAMSA should make provision to host the web site or to secure and update the information of the website.
- Countries should be encouraged to provide information to update the information on the website and the web portal of the IOC.

4.7 Environment Sensitivity Area Maps (ESA)

The ESA maps is an essential element for the contingency plan, be it at national or regional aspect. It is part of the activities implemented through a contract with BRL/OTRA. The maps for all the countries have been prepared and these include tactical and, specific strategic maps need that are useful for the operation of the national and regional contingency plan and to put in place trainings. The maps have been compiled into an Atlas; they have been printed and made available in an electronic format for the countries. Hard copies of the map are useful to facilitate the planning and execution of operations in cases of emergencies for both at national and regional use. These maps would be an essential tool to support and guide the actions of the Regional Activity Centre. A set of each of these map are to be made available both to the IOC and the RCC.

4.7.1 Recommendation

- Countries should make provision for continuous update of these maps. The countries should made use of the various experts and means available at national level to do so. These maps would also serve as a base for the economic valuation of the ecosystem for compensation in the event of spills and damage caused not only by oil spill but for other type of damages. The SWIOFP in collaboration with the FAO is compiling an electronic atlas for the region to show the impact of climate change on fisheries and marine biodiversity; these maps should be made available to regional entities as well as the UNEP, the secretariat of the Nairobi convention. They will contribute to the monitoring of the State of the marine environment.

4.8 Regional Coordination Centre or Regional Activity Centre

At the project completion date, RCC in South Africa was still not operational. One major constraint amongst others that have delayed its operations is the fact that no host country agreement between the Government of South Africa and SAMSA has been signed yet. The Project Steering Committee Meeting in December 2011 had approved an activity plan together with a budget of $350,000 USD to support the activities of the centre for the year of 2012. This activity plan was not implemented and one of the major consequences of this was that the Regional Oil Spill Contingency plan was not tested. However, it was reported by SAMSA in mid December 2012 that progress has been made towards the signing of the host agreement by the local authorities. Some amendments had been brought to the original agreement and the proposed amendments have been brought to the attention of the national Coordinators at the project completion meeting.

The RCC was deemed to be the "engine" of the post project completion to keep up the momentum of the project by organising national and regional activities for the revision, updating and testing of NOSCPs and ROSCP; organise regular Regional Oil Spill Exercise, regional training and ensure regular technical information dissemination to all parties.

The conditions for the establishment of the RCC have been met by the project. The concept of the RCC was to have in the region a multidisciplinary centre to cater for a wider scope of maritime related activities to coordinate action and respond to major oils spill in the region, to provide guidance and information on navigation, response to emergency, for search and rescue, response to natural disasters including marine and costal pollution. The centre should be equip with the basis essential equipments and tool for its operation amongst which it should be equipped with a regional database on environmental data useful for navigation, pollution control and a VMS system for information exchange on shipping movement. The ownership by the region should be encouraged therefore attention should be given to its operational structure. A light structure could be put in place and provision be made for the establishment of a regional fund to ensure it sustainability beyond project completion

A call for expression of interest from participating States and an evaluation process were put in place. The selection and evaluation process was implemented with the assistance of REMPEC, IMO and the Nairobi Convention. The Sea watch and rescue centre based in SAMSA in South Africa was selected as the most appropriate centre to host the RCC. In Decemebr2011 at a special steering Committee meeting, the countries approved the choice of the centre to be set up in South Africa as well as the budget and activities for the year 2012. Assistance was provided to SAMSA to assess its requirement for the centre to become operational and a host country agreement to be signed between the government of South Africa and SAMSA was prepared, reviewed by the participating states and submitted for the signature. The centre is to date not operational and the country host agreement has not been signed. Despite all the preparatory work done and the support provide in an effort made for the RCC to become effectively operational, the project management has encountered a number of administrative challenges in place in South Africa. Due to the unseen administrative procedure in South Africa, the process has taken more time than was originally foreseen and to that effect it is very unlikely that the centre will be operational by the end of 2012. The fund that was earmarked to support the activities of the centre for the year 2012 has not been utilized and as a result the regional plan has not been tested.

4.8.1 Recommendation

The current project has provided the baseline and the essential tools and materials for the start-up of the centre and it should have been equipped to allow its operation on a twenty four hourly basis. Basic equipment such as telecommunication devices, VMS systems, search and rescue equipment and pollution control equipment could be considered to combat operation at open seas, international waters.

The RCC which has been set up in South Africa is yet to become operation.

- SAMSA and the Government of South Africa will need to strengthen their efforts to formalize the status of the centre and to put in place a mechanism for the participating countries to be kept informed and partake in the activities.
- South Africa and SAMSA should seek to mobilize the regional institutions and work with the Nairobi Convention Secretariat, IMO and Indian Ocean Commission to get the commitment and engage the countries more into reporting on the implementation the various protocols in place.
- Countries signatory to the Nairobi Convention has mandate the secretariat to establish a regional activity centre for the convention. In that respect South Africa / the Centre should seek to establish MoU with UNEP/ Nairobi Convention secretariat to collaborate and seek the feasibility of making the centre the regional activity centre for the Convention. The advantage would be to have only one centre of excellence for the region, country will financially contribute to one centre and thus reduce the financial stress on the country's financial contribution.

4.9 Equipments

The national centre should have a direct link to the regional centre and a mechanism be put in place to allow the mobilisation of resources, personnel and equipments from the national centre for regional or bilateral actions. The provision of equipments for national centre was not foreseen in the project but assessment conducted at the start of the project has revealed that some equipment for combating oil spill provided to the Island states have worn out and need to be replaced and in other countries, such need to be provided to ensure that all countries have the basic equipment required that could also be mobilized for regional or bilateral actions in the event of emergencies. Tier I equipment has been provided for four (4) ports namely , the port of Anjouan in Comoros, Beira and Nacala in Mozambique and Dar Es Salaam in Tanzania while Tier 11 equipment has been provided to the Port of Maputo in Mozambique and Port Louis in Mauritius.

4.10 Capacity development

Capacity building has been a key element in the project. Training has been provided not only for the management of the national plans, but also to assist countries to be more conversant with the international laws governing maritime affairs and pollution control. In the present project provision was to provide training for one lawyer in Maritime law per country for Kenya, Tanzania and Mozambique. More countries have expressed the need to assist in the training of lawyers. Face with emerging challenges in the maritime affairs such as oil exploration, piracy issues and illegal fishing, amongst others. Training at master degree level was provided for one lawyer from the following countries, Kenya, Mauritius, Mozambique, and Tanzania. A training session in collaboration with IMO was also conducted for legal advisors in the maritime and environmental sectors to enhance their capacity in the understanding of the IMO conventions.

4.10.1 Recommendation

Training is an essential component for the sustainability of actions at national level. The project provided for training of trainers for the management of the plan.

- Countries should capitalize and make use of trained trainers to continuously train and develop capacity at national level.
- Countries should put in place the necessary facilities to retain the trained lawyers
- Due to the high turnover off staff, most countries will still require a certain level of capacity building. Support would still be require for ecosystem valuation, management of data and handling of hazardous substances.
- Regional efforts should be further mobilised to support continuous capacity building of national institutions.

5.0 ASSESSMENT OF CONTRIBUTION OF PARTNERS

The project document indicated that a large number of partners will provide support for implementation of various activities. The support provided for the implementation of Component B and C has been mainly been the contribution of France/ Réunion and the secretariat of the Indian Ocean Commission through its regional projects. These would include projects implemented by the IOC funded by the European Union and the French GEF.

5.1 Contribution of the Indian Ocean Commission

The IOC has served as the Sub-Regional Project Management Unit responsible for implementing components B and C.

It has honoured its commitment by providing in-kind support of office space and office operational costs, secretarial services, and financial management and accounting services required to maintain the project accounts according to Bank guidelines and procedures.

- ***IOC project contributing to attain the object of the project are:***
    - Regional project for the sustainable management of the coastal zone (ReCoMaP). Activities mainly concerned sensitisation and awareness raising on coastal and marine resources working government institutions and NGOs
    - Regional Network of Marine protected areas which provided for some baseline information on the mapping of the sensitive areas in the region
    - The regional plan for fisheries surveillance and monitoring in the Islands States, members of the IOC. The project provide training in fisheries inspectors, tools for fisheries monitoring and conducted joint regional maritime and aerial patrol in the region to detect illegal fishing.

5.2 South African Maritime Safety Authority

SAMSA has served as the Regional Project Management Unit, responsible for overall project coordination and for implementing components A and D. SAMSA will provide in-kind support of office space and office operational costs, secretarial services, and financial management services and accounting services required to maintain the project accounts according to Bank guidelines and procedures.

5.3 International Maritime Organization

The mandate of the IMO is to encourage and facilitate the adoption and implementation of the highest practical standards in matters concerning maritime safety, security, efficiency of navigation, and the prevention and control of marine pollution from ships. The IMO will contributed to the project by providing in-kind support and advice through participation as observer in relevant meetings, including the project steering committee meetings; such contribution to be done taking due account of IMO's staff constraints.

IMO provided in-kind support and advice on the regional agreement, regional contingency plan and regional coordination centre. It provided assistance and organised jointly workshops on IMO conventions and NHS protocol. :

5.4 Recipient governments

The governments of the beneficiary countries will provide in-kind resources during project implementation, specifically they will:

- Support relevant staff out of their own resources to participate in seminars, workshops, and training courses.
- Appoint and provide the resources for coordination of activities at the national level, such as an office within a ministry of environment or transport.
- Participate in promotional activities and public awareness campaigns and the like aimed at raising awareness of the project, its benefits, and the role that the public can play to reduce the risk of catastrophic damage from oil and chemical spills.
- Provide support to a regional centre in accordance with agreements made during the implementation of the project.

5.5 France/ Réunion

France Réunion has contributed immensely to the implementation of activities in Comoros and Rodrigues Island of Mauritius. It has provided its expertise in the revision of the Oil spill plan and training.

6.0 FINANCIAL MANAGEMENT

The financial management of the project was undertaken by the finance department of the IOC in compliance with the procurement procedure of the World Bank. A project manual for the financial management of the project was put in place at the start of the project to guide the internal procedure. An auditing firm was contracted to undertake annual auditing of the project account. The expenditures were recorded in a financial database, SARA and quarterly reports were produce of per the requirement of the bank. The financial status of the project is indicated in Annex 1.

7.0 SUSTAINABILITY

Most of the activities of the project can be sustain through national budget. The countries have the necessary know how to revise their national contingency plans, organise national exercised to test their plans. Madagascar has offered to coordinate and test the regional plan while la Réunion has offered to provide its services to the countries in the detection of oil spill using satellite images. This will allow networking of the national centres. The countries will provide updated information on the hot spot areas to be monitored and details of the contact person of all the national centres. Countries will also build on the cooperation that exists with other countries such as the USA, South Africa and France for capacity development.

Although provision has been made by the countries to sustain some activities, they will still require training for junior staff in various fields and there will also be the need to renew oil spill combat equipments.

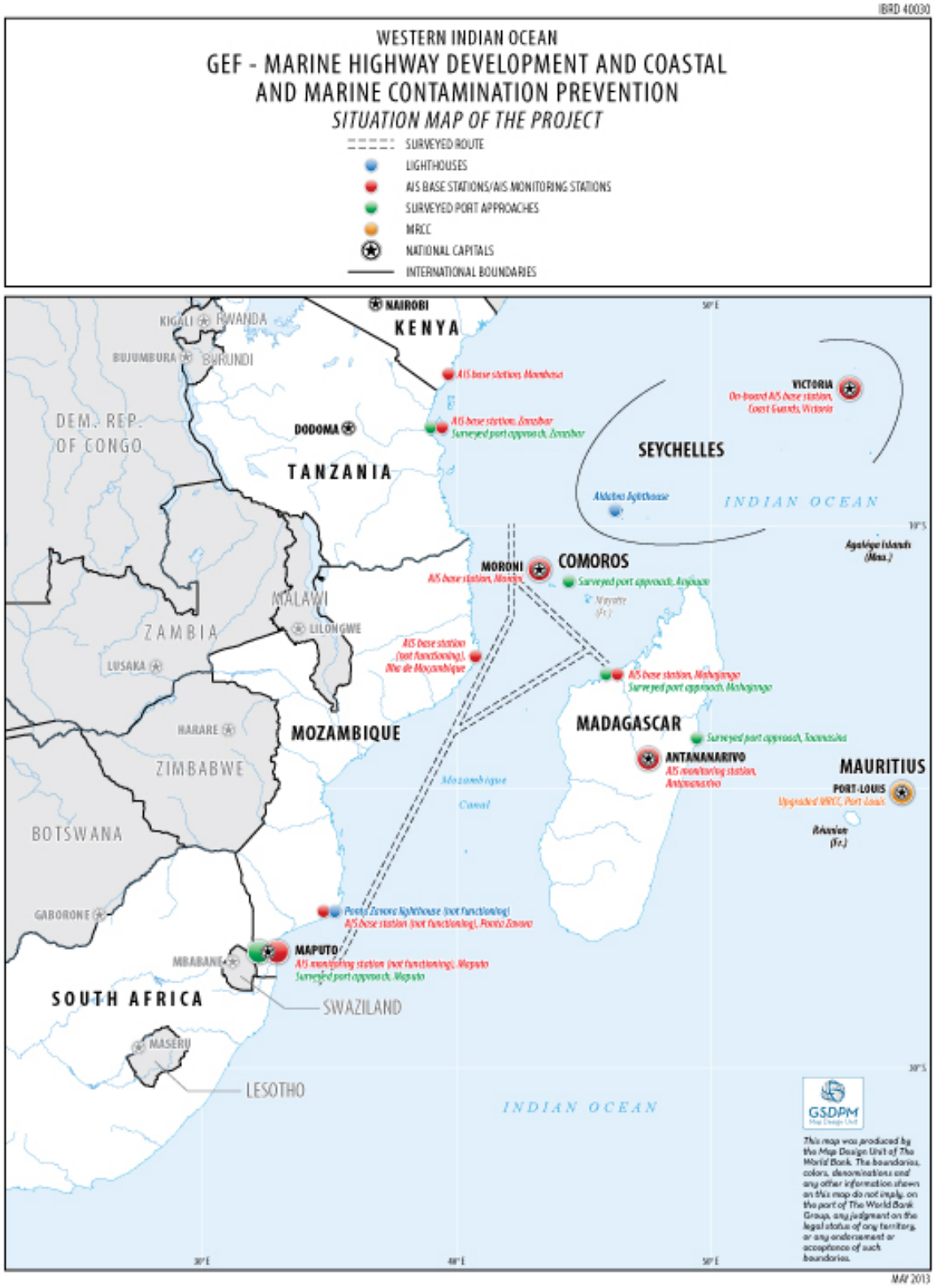
8. CONCLUSION

The overall implementation of the project has been satisfactory and the activities carried out in the countries within the framework of the service contract establish with BRL/OTRA has been well appreciated. During the implementation phase of the contract, the partnership with IMO was developed to undertake certain training with regards to the IMO conventions. The involvement of IMO in the project has allowed for the IOC to develop a long term partnership with this institution through the signing of a Memorandum of Agreement in 2011. The agreement provides for the two institutions to collaborate in matters of common interest in the field of specialisation of IMO.

The project has also provided scope for strengthening of the IOC collaboration with the secretariat of the Nairobi convention to address matters with regards to coastal and marine pollution and for the enforcement of the marine pollution protocol under this convention.

Annex 7. List of Supporting Documents

1. Project Concept Note, November 2003
2. Project Appraisal Document, April 2007
3. Aide Memoires
4. Mid-term review background report, October 2010


IBRD 40030
WESTERN INDIAN OCEAN
GEF - MARINE HIGHWAY DEVELOPMENT AND COASTAL AND MARINE CONTAMINATION PREVENTION
SITUATION MAP OF THE PROJECT
SURVEYED ROUTE
LIGHTHOUSES
AIS BASE STATIONS/AIS MONITORING STATIONS
SURVEYED PORT APPROACHES
MRCC
NATIONAL CAPITALS
INTERNATIONAL BOUNDARIES
NAIROBI
KENYA
KIGALI
RWANDA
BUJUMBURA
BURUNDI
DEM. REP. OF CONGO
DODOMA
TANZANIA
AIS base station, Mombasa
AIS base station, Zanzibar
Surveyed port approach, Zanzibar
VICTORIA
On-board AIS base station, Coast Guards, Victoria
SEYCHELLES
Aldabra lighthouse
INDIAN OCEAN
Agalega Islands (Mau.)
MORONI
COMOROS
AIS base station, Moroni
Surveyed port approach, Anjouan
Mayotte (Fr.)
MALAWI
LILONGWE
ZAMBIA
LUSAKA
AIS base station (not functioning), Ilha de Mocambique
AIS base station, Mahajanga
Surveyed port approach, Mahajanga
HARARE
MOZAMBIQUE
MADAGASCAR
Surveyed port approach, Toamasina
ANTANANARIVO
AIS monitoring station, Antananarivo
MAURITIUS
PORT-LOUIS
Upgraded MRCC, Port Louis
Reunion (Fr.)
Mozambique Canal
ZIMBABWE
BOTSWANA
GABORONE
Ponta Zavora lighthouse (not functioning)
AIS base station (not functioning), Ponta Zavora
MAPUTO
AIS monitoring station (not functioning), Maputo
Surveyed port approach, Maputo
MBABANE
SOUTH AFRICA
SWAZILAND
MASERU
LESOTHO
INDIAN OCEAN
GSDPM
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MAY 2013