

### Implementation Status & Results

#### Africa

#### GEF-Western Indian Ocean Marine Highway Development and Coastal and Marine Contamination Prevention (P078643)

Operation Name: GEF-Western Indian Ocean Marine Highway Development and Coastal and Marine Contamination Prevention (P078643)    Project Stage: Implementation    Seq.No: 12    Status: ARCHIVED    Archive Date: 21-Jan-2013

Product Line: Global Environment Project    Country: Africa    Approval FY: 2007  
 Implementing Agency(ies):    Region: AFRICA    Lending Instrument: Specific Investment Loan

#### Key Dates

Board Approval Date	22-May-2007	Original Closing Date	30-Jun-2011	Planned Mid Term Review Date	Last Archived ISR Date	17-Aug-2012
Effectiveness Date	21-Sep-2007	Revised Closing Date	31-Dec-2012	Actual Mid Term Review Date	01-Nov-2010	

#### Global Environmental Objectives

Global Environmental Objective (from Project Appraisal Document)

The project's medium to long-term global environmental goals are 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 has three specific global environmental objectives. The first is 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 is to support widening the existing regional agreement (June 5, 1998) on port state control and implementation of its provisions. The third objective, focusing on Kenya, Mozambique, South Africa, and Tanzania, is 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 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 west Indian Ocean island states.

Has the Project Development Objective been changed since Board Approval of the Project?

Yes     No

#### Component(s)

Component Name	Component Cost
Development of a regional marine highway and institutions	6.00
Capacity building for prevention of coastal and marine contamination	1.10
Building a regional oil spill response capacity	0.70
Port state control, fisheries monitoring, and project coordination and management	3.30

#### Overall Ratings

	Previous Rating	Current Rating
Progress towards achievement of GEO	Satisfactory	Satisfactory

	Previous Rating	Current Rating
Overall Implementation Progress (IP)	Satisfactory	Satisfactory
Overall Risk Rating	Moderate	Moderate

**Implementation Status Overview**

Progress in the implementation of the project remains satisfactory and December 2012 is the final month as the Project is to close on Dec. 31, 2012. Based on the latest supervision review in October 2012 there remains good progress in implementation and the Global Environmental Objectives of the Grant will be met in accordance with the project objectives. Port state control vessel inspections has reached an all time high of 606 in 2011 well above the target set for the Project of 475. The Marine Highway along the Mozambique Channel has been developed and is now available in Electronic Nautical Charts and has the status of a surveyed corridor available to all vessels. The Regional Cooperation Agreement on Preparedness and Response to Oil, Hazardous and Noxious Substances Pollution in the Western Indian Ocean has been effective since December 2011 and has been signed by all the participating States. The signature by South Africa of the Host Country Agreement ("HCA") for the Regional Coordination Center for Preparedness and Response to Oil, Hazardous and Noxious Substances Pollution in the Western Indian Ocean ("the Center") to be hosted by SAMSA is pending. All other participating countries have pledged to sign the HCA after South Africa signs. Project disbursements are in accordance with projections and the balance of the Grant will go unused, reflecting greater than expected contributions in kind from the participating States and global institutions received by the project, however all project objectives will be met. All contracts including the Automatic Information Stations (AIS), navigation aids, port surveys, technical assistance are either completed or under advanced implementation. The Grant received from the European Space Agency (ESA) produced breakthrough earth observation products for the Mozambique Channel in support of Project activities including: (i) oil spill detection in real time, and (ii) coral reef monitoring.

The Project has introduced innovative technology to detect oil spills in real time. With funding from the European Space Agency, a product was developed to detect oil spills and identify polluters in real time, using radar satellite images to detect oil slicks on the sea-surface and matching them with Sat-AIS data to identify potential polluters. The application was developed based on several years of research by ESA and this was a first opportunity to combine oil spill detection and satellite AIS to identify the potential polluters anywhere. Over the course of 5 months the monitoring included 117 satellite images spread over the Project Area which covered 17.5 million km2, identifying 38 oil spills (of which 23 were confirmed oil spills and 15 with features of interest), a monitoring that is unprecedented in the Western Indian Ocean. The frequency of occurrence, which is higher than anticipated, was 32% per image or 2.2 spills detected per million km2 covered. Six potential polluters were identified and Port State Control was activated by the participating countries. The distribution was: Comoros 3, Kenya 1, La Réunion 2, Mauritius 4, Mozambique 6, Seychelles 1, and South Africa 6. Some of the spills were significant in length (i.e., min 1.5 km and max 144 km) with a mean value of 21 km and median value of 10 km. The observed time between the satellite pass and notification had a median of 70 minutes and a mean of 135 minutes; these values are expected to be significantly reduced with the recent opening of a radar satellite antenna in La Reunion. The user feedback was extremely positive since for the first time, the issue of oil spill occurrence was assessed on a regional scale and found to be significant. The Product also allowed the monitoring of a ship wreck which happened in Mauritius on August 30, 2011 with high resolution imagery.

The Government of South Africa ratified the Agreement on the Regional Contingency Plan for preparedness for and response to major marine pollution incidents in the Western Indian Ocean, the last of the eight participating countries to do so.

**Locations**

Country	First Administrative Division	Location	Planned	Actual
Tanzania	Zanzibar Urban/West Region	Zanzibar Urban/West Region		
Tanzania	Zanzibar North Region	Zanzibar North Region		
Tanzania	Zanzibar Central/South Region	Zanzibar Central/South Region		
Tanzania	Tanga Region	Tanga Region		
Tanzania	Pwani	Pwani Region		

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Country	First Administrative Division	Location	Planned	Actual
Tanzania	Pemba South Region	Pemba South Region		
Tanzania	Pemba North Region	Pemba North Region		
Tanzania	Lindi Region	Lindi Region		
Tanzania	Dar es Salaam Region	Dar es Salaam Region		
Africa	Not Entered	Groupe d' Aldabra		
Kenya	Coast Province	Coast Province		
Tanzania	Mtwara Region	Mtwara Region		
Africa	Not Entered	Province of KwaZulu-Natal		
Mozambique	Provincia de Zambezia	Provincia de Zambezia		
Mozambique	Provincia de Sofala	Provincia de Sofala		
Mozambique	Provincia de Nampula	Provincia de Nampula		
Mozambique	Provincia de Nampula	Cidade de Nacala		
Mozambique	Maputo	Provincia de Maputo		
Mozambique	Provincia de Inhambane	Inharrime		
Mozambique	Provincia de Inhambane	Provincia de Inhambane		
Mozambique	Provincia de Gaza	Provincia de Gaza		
Mozambique	Provincia de Cabo Delgado	Provincia de Cabo Delgado		
Africa	Not Entered	Province of Eastern Cape		
Africa	Not Entered	Province of Northern Cape		
Africa	Not Entered	Province of the Western Cape		
Mozambique	Cidade de Maputo	Cidade de Maputo		

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**Results**

**Global Environmental Objective Indicators**

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Indicator Name	Core	Unit of Measure		Baseline	Current	End Target
Number of passages of vessels traveling through the region using the marine highway and its electronic charts for navigation (SRI)	<input type="checkbox"/>	Text	Value	No marine highway infrastructure in place, so no ships use it.		Target achieved
			Date	19-Jul-2007	20-Dec-2012	31-Dec-2012
			Comments		"Surveyed corridor" marine survey, data collected and incorporated in electronic nautical charts. Agreement with key intl. organizations on "Routing System" and marine highway principle. Participating States have submitted formal IMO application for approval of "Routing System".	
Number of ship inspections carried out at major ports in the region (PI)	<input type="checkbox"/>	Number	Value	223.00	606.00	475.00
			Date	03-Jan-2005	20-Dec-2012	31-Dec-2012
			Comments	Data for 2005-2005	Reported 606 inspections in 2011 Port State Control website including: South Africa 230, Tanzania 23, Kenya 258, Reunion 85. Totalsfor Madagascar & Comoros also estimated at 5 each.	Target achieved

**Intermediate Results Indicators**

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Indicator Name	Core	Unit of Measure		Baseline	Current	End Target
Electronic nautical charts and publications produced	<input type="checkbox"/>	Text	Value	0		10
			Date	19-Jul-2007	20-Dec-2012	31-Dec-2012
			Comments		Mozambique Channel route survey data prepared by M/s SHOM. Motor vessel Beautemp Beaupre completed survey. Data for 10 large scale and 3 small scale ENC's along the route now available and already included in ENC's (early 2011). 2 large scale ENC's of Mozambique, 2 of Kenya, 2 of Seychelles, 4 of Tanzania should be available by June 2011. 2 large scale ENC's of Madagascar and 1 of Comoros are complete and South Africa and Mauritius have a full catalogue of charting available already.	Target achieved.
Charts and publications maintained and updated (cumulative)	<input type="checkbox"/>	Text	Value	0		35
			Date	19-Jul-2007	20-Dec-2012	31-Dec-2012
			Comments		Basic Port ENC data updated for ports in South Africa, Kenya, Mozambique, and Mauritius ports by South African Hydrographer in DOD, South Africa. Port surveys of Mahajunga and Tamatave in Madagascar and Anjouan in Comoros have been carried out by M/s SHOM.	Partially achieved.
Main aids to navigation on the route of the marine highway surveyed and rehabilitated	<input type="checkbox"/>	Text	Value	0		2
			Date	19-Jul-2007	20-Dec-2012	31-Dec-2012
			Comments		AtoN brought back into service or part of upgrading program in each country.	In progress

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					Contracts awarded for one remaining: Point Zavora lighthouse.	
Automatic information service and ship communications system established	<input type="checkbox"/>	Text	Value	0		1
			Date	19-Jul-2007	20-Dec-2012	31-Dec-2012
			Comments		South Africa has established a comprehensive system with 25 sites, establishment in all other countries well underway and expected to be completed shortly.	In progress.
Search and rescue communications between two maritime rescue coordination centers (Cape Town and R#union) and all states involved in the project fully operational (PI)	<input type="checkbox"/>	Text	Value	Communications links not yet fully established with the participating states	Links established	Links established
			Date	19-Jul-2007	09-Jul-2012	31-Dec-2013
			Comments		Communication established between 3 centers (Cape Town, Reunion and Mombasa) and sub-center in Seychelles.	Target achieved.
Pollution prevention and contingency management plans developed for Kenya, Mozambique, and Tanzania (PI)	<input type="checkbox"/>	Text	Value	None currently in place		3
			Date	19-Jul-2007	31-Dec-2011	31-Dec-2012
			Comments		Revised NOSCPs for 8 countries including 3 for Kenya, Mozambique and Tanzania (reviewed, revised and updated two times with project inputs). Training in these 3 countries for Tier I and II response took place in November 2010. Trained staff per country to date: Comoros 40, Madagascar 40, Mauritius 50, Seychelles 70, Mozambique 40, Kenya 40, Tanzania 40.	Target achieved.
Methodology to value ecosystem benefits developed and used by environmental managers (PI)	<input type="checkbox"/>	Text	Value	None currently in place		Methodology developed and disseminated
			Date	19-Jul-2007	09-Jul-2012	31-Dec-2012
			Comments		Field surveys and data collection has proceeded well in Kenya, Mauritius, and	Target achieved

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					Tanzania. Two regional workshops of environmental economists were organized during which a Regional Methodology for Ecosystem Valuation was defined.	
Countries establish and continuously maintain databases and geographic information systems, as indicated in discussions with staff of project entities (PI)	<input type="checkbox"/>	Text	Value	None currently in place		Information system in place
			Date	19-Jul-2007	09-Jul-2012	31-Dec-2012
			Comments		Environmental data are being converted into GIS format and use in that form for the preparation of ESAs. This is ongoing in all participating States. Comoros, Madagascar, Mauritius completed. In progress in other countries.	Target achieved.
Kenya, Mozambique, and Tanzania pass national laws and regulations to implement OPCR, FUND, and CLC conventions	<input type="checkbox"/>	Text	Value	Kenya, Mozambique, and Tanzania have ratified OPRC 90, CLC (Prot 92), and Fund (Prot 92), but have not passed national laws and regulations to implement them		Ratified OPRC 90, CLC (Prot 92), and Fund (Prot 92) by Kenya, Mozambique and Tanzania are completed
			Date	19-Jul-2007	09-Jul-2012	31-Dec-2012
			Comments		Kenya, Mozambique and Tanzania have all signed the OPRC 90, CLC 92 and International Compensation Funds. No country in the sub-region has as yet ratified the HNS 2000 protocol. 4 Masters in Maritime Law from Kenya, Mozambique, Mauritius and Tanzania trained under the Project.	Target achieved.
Kenya, Mozambique, and Tanzania adopt national oil spill contingency plans	<input type="checkbox"/>	Text	Value	Plans in different stages have been developed		Contingency plans are completed
			Date	19-Jul-2007	09-Jul-2012	31-Dec-2012
			Comments		The NOSCPs have been prepared for Kenya, Mozambique and Tanzania.	NOSCP plans revised approval in progress.

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					Government approvals are being sought.	
Equipment in place and used in training	<input type="checkbox"/>	Text	Value	Some equipment in place		All equipment is acquired and in place
			Date	19-Jul-2007	09-Jul-2012	31-Dec-2012
			Comments		Sufficient equipment in place in 5 of 8 countries. Additional oil spill combat kits for Comoros, Mozambique and Tanzania delivered.	target achieved.
A regional marine pollution contingency plan that covers all participating countries is established	<input type="checkbox"/>	Text	Value	Neither Kenya, Mozambique, Tanzania, South Africa currently have in a regional plan		Regional plans completed
			Date	19-Jul-2007	09-Jul-2012	31-Dec-2012
			Comments		A regional agreement is effective since November 2011.	Target achieved.
A regional center to coordinate national actions and to monitor regionwide environmental conditions is fully operational	<input type="checkbox"/>	Text	Value	A subregional center is currently operating in Madagascar		Center is operating
			Date	19-Jul-2007	09-Jul-2012	31-Dec-2012
			Comments		Regional agreement signed by 7 participating States making agreement effective. A regional coordination center agreement has been agreed but host country South Africa still to sign. Once South Africa signs other signatures expected during second semester of 2012.	In progress.
Agreement reached with Madagascar and Comoros to join the regional agreement on port state control that was signed on June 5, 1998	<input type="checkbox"/>	Text	Value	Madagascar and Comoros not currently part of the regional agreement		Madagascar and Comoros sign the regional agreement
			Date	19-Jul-2007	09-Jul-2012	31-Dec-2012
			Comments		Comoros has signed. Madagascar still has not applied.	Partially achieved.



Inspectors trained under the project to international standards in port state control operating	<input type="checkbox"/>	Text	Value	16 inspectors currently operating in South Africa		At least 2 per country
			Date	19-Jul-2007	31-Dec-2011	31-Dec-2012
			Comments		20 trainees participated in the IMO approved course in Durban last Nov 2010, including Comoros (2), Madagascar (1), Mozambique (2), Tanzania (3), South Africa (9). Additional training planned for second semester 2012.	Target achieved. Indian Ocean MoU has also trained PSC officials.
Mechanisms for coordination among related GEF-supported initiatives created and maintained	<input type="checkbox"/>	Text	Value	No mechanisms are in place yet		Staff of project mgt units of GEF projects participate in GEF-IW conferences
			Date	19-Jul-2007	09-Jul-2012	31-Dec-2012
			Comments		IOC is liaising with as well as exchanging environmental data with ASCLME, and other EU funded projects such as ReCoMap, etc.	Target achieved

**Data on Financial Performance (as of 27-Dec-2012)**

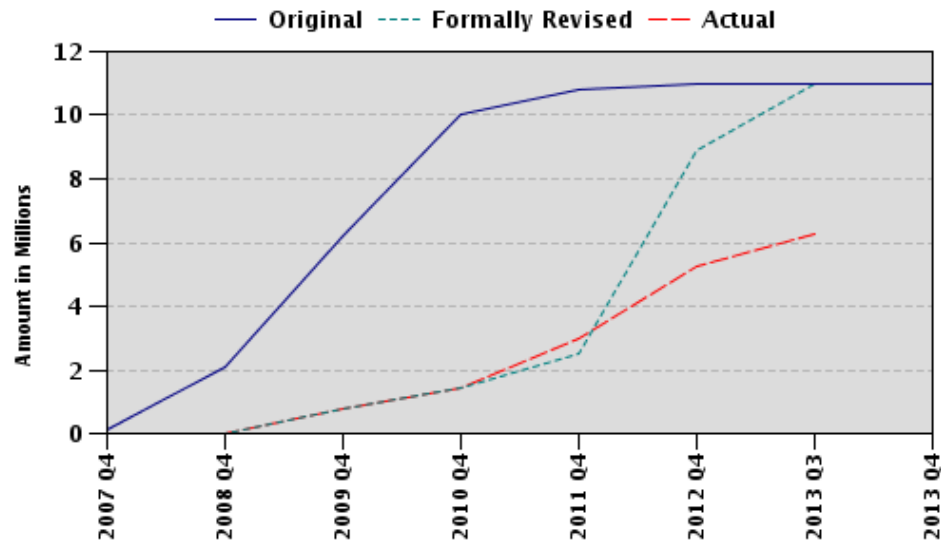
**Financial Agreement(s) Key Dates**

Project	Ln/Cr/Tf	Status	Approval Date	Signing Date	Effectiveness Date	Original Closing Date	Revised Closing Date
P078643	TF-90304	Closed	21-Sep-2007	21-Sep-2007	21-Sep-2007	30-Jun-2011	31-Dec-2012

**Disbursements (in Millions)**

Project	Ln/Cr/Tf	Status	Currency	Original	Revised	Cancelled	Disbursed	Undisbursed	% Disbursed
P078643	TF-90304	Closed	USD	11.00	11.00	0.00	6.24	4.76	57.00

**Disbursement Graph**



**Key Decisions Regarding Implementation**

A survey of the ‘route’ through the Mozambique Channel was carried out by the Service Hydrographique et Océanographique de la Marine (SHOM) 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 all coastal States involved in the Project and with their permission the data was forwarded to the United Kingdom Hydrographic Office (UKHO) and was included since December 2010 in both small scale and large-scale charts and electronic nautical navigation charts of the region.

Procurement was completed for the Aids to Navigation and Automatic Information Stations (AIS). The AIS contract is well underway. The acceptance test were done for all equipment at the beginning of October, and the equipment will be shipped before October 15, 2012. The installation program will end in Mozambique on Dec. 17th. One main contract remains under implementation. The Aldabra Lighthouse is installed and operational since December 16, 2012.

**Restructuring History**

Level two Approved on 23-Dec-2010, Level two Approved on 08-Aug-2011, Level two Approved on 26-Sep-2012

**Related Projects**

There are no related projects.