Document of The World Bank

Report No: ICR00002692

#### IMPLEMENTATION COMPLETION AND RESULTS REPORT (TF-56039)

#### ON A

#### GRANT FROM THE GLOBAL ENVIRONMENT FACILITY TRUST FUND

#### IN THE AMOUNT OF US\$12.0 MILLION

#### TO THE

#### **REPUBLIC OF KENYA**

(On Behalf of the UNION OF THE COMOROS, REPUBLIC OF MADAGASCAR, REPUBLIC OF MAURITIUS, REPUBLIC OF MOZAMBIQUE, REPUBLIC OF SEYCHELLES, REPUBLIC OF SOUTH AFRICA, and the UNITED REPUBLIC OF TANZANIA)

#### FOR A

#### SOUTHWEST INDIAN OCEAN FISHERIES PROJECT

December 18, 2013

Environment and Natural Resources Management Unit 1 (AFTN1) Sustainable Development Department Africa Region

#### CURRENCY EQUIVALENTS

(Exchange Rate Effective as of 03/31/2013)

Comorian Franc 100 = US\$ 0.26 US\$1.00 = Comorian Franc 384

Kenyan Shilling 1 = US\$0.014 US\$1.00 = Kenyan Shilling 85.25

Malagasy Ariary 100 = US\$0.04 US\$1.00 = Malagasy Ariary 2,256

Mauritian Rupee 1 = US\$0.03 US\$1.00 = Mauritian Rupees 31.21

New Mozambican Metical 1 = US\$0.03 US\$1.00 = New Mozambican Metical 30.10

Seychelles Rupee = US\$0.09 US\$1.00 = Seychelles Rupees 11.69

South African Rand 1 = US\$0.11 US\$1.00 = South African Rand 9.25

Tanzanian Shilling 100 = US\$0.62 US\$1.00 = Tanzanian Shilling 1,617

#### FISCAL YEAR

January 1 to December 31

# ABBREVIATIONS AND ACRONYMS

ACEP	Africa Coelacanth Ecosystem Project
APL	Adaptable Program Loan
ASCLME	Agulhas and Somali Currents Large Marine Ecosystems
BCLME	Benguela Current Large Marine Ecosystem Project
DA	Designated Account
DGF	Development Grant Facility
DLIST	Distance Learning and Information Sharing Tool
EAC	East African Community
EAF	Ecosystem Approach in Fisheries management
EEZ	Exclusive Economic Zone
EOP	End of Project
ERA	Ecological Risk Assessment
EU	European Union
FAD	Fish Aggregating Device
FAO	Food and Agriculture Organization
FFEM	Fonds Français pour l'Environnement Mondial
GEO	Global Environment Objective
GEF	Global Environment Facility
GPO	Global Partnership for Oceans
IA	Implementing Agency
IBRD	International Bank for Reconstruction and Development
ICR	Implementation Completion and Results Report
IDA	International Development Association
IDF	International Development Fund
IFREMER	Institut Français de Recherche pour l'Exploitation de la Mer
IOC/COI	Indian Ocean Commission (Commission de l'Océan Indien)
IOTC	Indian Ocean Tuna Commission
IRD	Institut de Recherche pour le Développement
IUCN	International Union for Conservation of Nature
IUU	Illegal, Unreported, and Unregistered (fishing activity)
IW	International Waters
KPI	Key Performance Indicator
KMFRI	Kenya Marine and Fisheries Research Institute
LME	Large Marine Ecosystem
IWLEARN	the International Waters Learning Exchange and Resource Network
MEDA	National Marine Ecosystem Diagnostic Analyses
M&E	Monitoring and Evaluation
MCS	Monitoring, Control and Surveillance
MMA	Marine Management Areas
MPA	Marine Protected Areas
MSc	Masters of Science
MTR	Mid-Term Review
NEPAD	New Partnership for African Development
NGO	Non-Governmental Organization

NMU	National Management Unit
ORI	Oceanographic Research Institute
PAD	Project Appraisal Document
PDF	Project Development Fund (Preparation Grant)
PDO	Project Development Objective
PMS	Project Management Structure
POI	WSSD Plan of Implementation
POPs	Persistent Organic Pollutants
PPG	Project Preparation Grant
PSAT	Pop-up Satellite Archival Tagging
RBA	Rapid By-catch Assessment
RES	Regional Executive Secretary
RFB	Regional Fisheries Body
RFMO	Regional Fisheries Management Organization
RMU	Regional Management Unit
RPSC	Regional Policy and Steering Committee
SA	Special Account
SADC	Southern Africa Development Community
SAP	Strategic Action Plan
STATBASE	Fisheries Database Program
SIOFA	Southwest Indian Ocean Fisheries Agreement
SWIO	Southwest Indian Ocean
SWIOFC	Southwest Indian Ocean Fisheries Commission
SWIOFP	Southwest Indian Ocean Fisheries Project
SWIOFish	South West Indian Ocean Fisheries Governance and Shared Growth Program
TDA	Transboundary Diagnostic Analysis
UNCLOS	United Nations Convention on the Law of the Sea
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
VMS	Vessel Monitoring System
WIO	West Indian Ocean
WIO-LaB	Western Indian Ocean Land Based Impacts on the Marine Environment Project
WSSD	World Summit on Sustainable Development
WWF	World Wide Fund for Nature

Vice President:	Makhtar Diop
Country Director:	Colin Bruce
Sector Manager:	Benoit Bosquet
Project Team Leader:	Xavier F. P. Vincent
ICR Team Leader	Xavier F. P. Vincent
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#### SOUTH WEST INDIAN OCEAN Fisheries Project

# **Implementation Completion and Results Report**

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# DATA SHEET

A. Basic Informatio	on			
Country:	Africa	Project Name:	South West Indian Ocean Fisheries Project	
Project ID:	P072202	L/C/TF Number(s):	TF-56039,TF- 90421,TF-93663	
ICR Date:	12/17/2013	ICR Type:	Core ICR	
Lending Instrument:	SIL	Borrower:	GOVERNMENT OF KENYA	
Original Total Commitment:	USD 12.00M	Disbursed Amount:	USD 11.94M	
Revised Amount:	USD 11.94M			
Environmental Category: C Global Focal Area: I				
<b>Implementing Agenc</b> KMFRI	ies:			
<b>Cofinanciers and Otl</b>	her External Partner	rs:		

# B. Key Dates

Process	Date	Process	Original Date	Revised / Actual Date(s)
Concept Review:	06/15/2004	Effectiveness:	04/09/2008	04/16/2008
Appraisal:	09/14/2005	Restructuring(s):		11/30/2011 03/07/2013
Approval:	06/28/2007	Mid-term Review:		03/17/2011
		Closing:	11/30/2011	03/31/2013

# C. Ratings Summary

C.1 Performance Rating by ICR			
Outcomes: Moderately Satisfactory			
Risk to Global Environment Outcome	High		
Bank Performance:	Moderately Satisfactory		
Borrower Performance: Moderately Satisfactory			

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

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):	Yes	Quality at Entry (QEA):	None		
Problem Project at any time (Yes/No):	Yes	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)		
Agricultural extension and research	39	39
Central government administration	61	61
Theme Code (as % of total Bank financing)		
Biodiversity	40	40
Environmental policies and institutions	40	40
Other rural development	20	20

# E. Bank Staff

Positions	At ICR	At Approval
Vice President:	Makhtar Diop	Obiageli Katryn Ezekwesili
Country Director:	Colin Bruce	Michael Baxter
Sector Manager:	Benoit Bosquet	Karen Mcconnell Brooks
Project Team Leader:	Xavier F. P. Vincent	William Leeds Lane
ICR Team Leader:	Xavier F. P. Vincent	
ICR Primary Author:	Huong-Giang Lucie Tran	

#### F. Results Framework Analysis

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

The Project's GEO was to promote the environmentally sustainable use of fish resources through adoption by countries riparian to the Southwest Indian Ocean of a Large Marine Ecosystem (LME)-based approach to fisheries management in the Agulhas and Somali LMEs that recognizes the importance of preserving biodiversity.

Key Performance Indicators for the GEO:

(a) To identify and study exploitable offshore fish stocks within the SWIO, and more specifically to become able to differentiate between environmental (LME-related) and anthropogenic impacts on shared fisheries.

(b) To develop institutional and human capacity through training and career building needed to undertake and sustain an ecosystem approach to natural resource management consistent with WSSD marine targets.

(c) To foster development of a regional fisheries management structure for implementing the LME-based approach to ecosystem based management through strengthening the Southwest Indian Ocean Fisheries Commission (SWIOFC) and other relevant regional bodies.

(d) To mainstream biodiversity in national fisheries management policy and legislation, and through national participation in regional organizations that promote sustainable exploitation of fisheries resources.

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

Neither the GEO nor the PDO were revised. The Key Performance Indicators for the GEO were merged into the indicators for the PDO, reduced in number and scope, and revised as follows:

(a) Development of a regionally harmonized strategy for ecosystem-based management of shared fish stocks in the SWIO adopted by all countries participating in the Project through strengthening existing regional management bodies such as the SWIOFC.

(b) Adoption by all SWIOFP countries through the SWIOFC of a monitoring and evaluation framework (including environmental status and stress reduction indicators) that defines ecosystem.

(c) Adoption of at least one national or multi-national plan for a specific demersal, pelagic or crustacean fishery by all countries participating in the Project.

Changes to the key performance indicators were made as a result of the Mid-term Review (March 2011) recommendations to revise the Results Framework table and the monitoring indicators for the GEO and PDO, realign the targeted values to reflect the delays in start-up, and redefine what could be realistically achieved in the time remaining for implementation.

# (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 :	Development of a regionally harmonized strategy for ecosystem-based management of shared fish stocks in the SWIO adopted by all countries participating in the Project through strengthening existing regional management bodies such as the SWIOFC.				
Value (quantitative or Qualitative)	No regional Strategy, partial data collection	100 percent completion: formal adoption by all nine countries	Strategic Action Plan (SAP) prepared and adopted by the beneficiaries.	An SAP has been prepared, endorsed by the regional High Policy Review Committee and adopted by 1 beneficiary country	
Date achieved	06/28/2007	03/31/2013	03/31/2013	03/31/2013	
Comments (incl. % achievement)	Partially Achieved. By end of project, the SAP has been approved by Seychelles, and approval processes are underway in the other countries.				
Indicator 2 :	Adoption by all SWIOFP countries through the SWIOFC of a monitoring and evaluation framework (including environmental status and stress reduction indicators) that defines ecosystem				
Value (quantitative or Qualitative)	SWIOFC newly established, no common M & E framework	Finalization and formal adoption of environmental status and stress reduction indicators	Finalization and formal adoption of environmental status and stress reduction indicators, dissemination of M&E Plan within region	Common M&E plan has been prepared and submitted to SWIOFC Session for adoption	
Date achieved	06/28/2007	03/31/2013	03/31/2013	03/31/2013	
Comments (incl. % achievement)	Substantially Achieved. SWIOFC Scientific Committee needs to endorse the M&E plan, expected in late 2013, after which it will be automatically adopted.				
Indicator 3 :	Adoption of at least one national or multinational plan for a specific demersal, pelagic or crustacean fishery by all countries participating in project.				
Value (quantitative or Qualitative)	Outside of tuna, little joint management of transboundary stocks.	Formal adoption of at least three sub-regional management plans (i.e. atleast one each for crustaceans,	Formal adoption of at least one national or a sub-regional management plan.	11 national fisheries management plans prepared (Mozambique and Kenya prepared 2 plans each), of	

		demersal and pelagic species) with each plan including two or more countries.		which 3 adopted (Tanzania, Madagascar, and Comoros).
Date achieved	06/28/2007	03/31/2013	03/31/2013	03/31/2013
Comments (incl. % achievement)	Substantially Achieved. 3 project closing. Since the underway.	chieved. 3 of the 11 plans have been adopted by countries at Since then, Mauritius's plan has been adopted, others are		

# (b) Intermediate Outcome Indicator(s)

Indicator	<b>Baseline Value</b>	Original Target Values (from approval documents)	Formally Revised Target Values	Actual Value Achieved at Completion or Target Years	
Indicator 1 :	Regional database piloted	and ranked effectiv	e by majority o	f SWIOFP countries	
Value (quantitative or Qualitative)	Tentative agreement by SWIOFP countries on database platform	N/A	Database operational and updated	7 databases are operational and updated.	
Date achieved	06/28/2007	03/31/2013	03/31/2013	03/31/2013	
Comments (incl. % achievement)	Component 1 indicator: A operational. Main fisherie with new data indicating a	chieved. Seven report s database located in doption by the men	gional databases in Kenya. Data nber countries.	s piloted and bases are updated	
Indicator 2 :	An analysis of the gaps in the needs of fisheries man SWIOFP	knowledge of SWI agement and a resea	O fisheries reso arch agenda for	implementation by	
Value (quantitative or Qualitative)	Preliminary review of gaps in knowledge as part of PDF B	N/A	Gap analysis completed	Gap analysis completed	
Date achieved	06/28/2007	03/31/2013	03/31/2013	03/31/2013	
Comments (incl. % achievement)	Component 1 indicator: Achieved. National gap analysis completed for all countries and combined into a regional gap analysis.				
Indicator 3 :	Training in data handling a beneficiary countries	and reporting provi	ded for each of	SWIOFP	
Value (quantitative or Qualitative)	Limited capacity in data handling and reporting	Training completed in all countries (8)	Training completed in all countries (8)	Training completed in all countries (8)	
Date achieved	06/28/2007	03/31/2013	03/31/2013	03/31/2013	
Comments (incl. % achievement)	Component 1 indicator: A	chieved			
Indicator 4 :	Crustacean ship-based sur and assess the potential of	veys and data-colle new and existing fi	ction to support isheries.	planned projects	
Value	0	N/A	15 surveys	15 surveys	

(quantitative or Qualitative)			completed	completed
Date achieved	06/28/2007	03/31/2013	03/31/2013	
Comments (incl. % achievement)	Component 2 indicator: A were funded by SWIOFP, cancelled due to lack of ac project used instead.	Achieved. Out of 15 and 11 were specif dequate vessel to car	completed shi ic to Componer rry out survey b	p-based surveys, 14 at 2. One survey but data from another
Indicator 5 :	crustacean fishing sectors	And Keuospecuve And	aryses for the th	nee major
Value (quantitative or Qualitative)	Some data available on stock dynamics, full baseline unknown	Dissemination of reports and finalization of 2 or 3 sub-regional reports	N/A	Retrospective analysis completed.
Date achieved	06/28/2007	03/31/2013	03/31/2013	03/31/2013
Comments (incl. % achievement)	Component 2 indicator: A major crustacean fishing s TDA and SAP.	Achieved. The retro ectors provided the	spective analys baseline for the	is completed for 3 e preparation of joint
Indicator 6 :	Crustaceans: Capacity bui	lding by completing	g of Masters of	Sciences (MSc).
Value (quantitative or Qualitative)	0	None	Completion and review of 4 MSc theses	4 MSc theses completed
Date achieved	06/28/2007	03/31/2013	03/31/2013	03/31/2013
Comments (incl. % achievement)	Component 2 indicator: A	Achieved.		
Indicator 7 :	Crustaceans: Number of p	ublished articles ba	sed on SWIOF	P survey data
Value (quantitative or Qualitative)	0	Number of articles submitted for review	2 articles	8 articles prepared of which 4 published, and 4 in review process. 6 additional in preparation.
Date achieved	06/28/2007	03/31/2013	03/31/2013	03/31/2013
Comments (incl. % achievement)	Component 2 indicator: A review, of which 4 publish Demersals: ship-based sur	Achieved, exceeded ned by EOP. weys and data collect	target. 8 article	s submitted to he potential of new
inuicator o :	and existing fisheries.			
Value (quantitative or Qualitative)	0	N/A	N/A	28 surveys completed, including 22 SWIOFP-financed of which 17 component specific.
Date achieved	06/28/2007	03/31/2013	03/31/2013	03/31/2013
Comments (incl. %	Component 3 indicator: A	Achieved.		

achievement)					
Indicator 9 :	Demersals: Production of fisheries.	Retrospective Anal	yses for the maj	or demersal	
Value (quantitative or Qualitative)	Some data available on stock dynamics, full baseline unknown	Dissemination of reports and finalization of 2 sub-regional report	N/A	Retrospective analysis completed.	
Date achieved	06/28/2007	03/31/2013	03/31/2013	03/31/2013	
Comments (incl. % achievement)	Component 3 indicator: 4	Achieved.	·		
Indicator 10 :	Demersals: Capacity buil	ding by completing	MSc.		
Value (quantitative or Qualitative)	0	N/A 2 MSc. 1 MSc thesis on completed and demersals 2 theses submitted in Mar		1 MSc thesis on demersals submitted in March 2013.	
Date achieved	06/28/2007	03/31/2013	03/31/2013	03/31/2013	
Comments (incl. % achievement)	Component 3 indicator: Partially Achieved. One thesis submitted by EOP and student graduated after EOP. All four other students have finished data analysis and were writing thesis by EOP.				
Indicator 11 :	Demersals: Number of published articles based SWIOFP survey data.				
Value (quantitative or Qualitative)	0	Number of articles submitted for review	2 articles	2 peer reviewed papers prepared, and 4 in preparation.	
Date achieved	06/28/2007	03/31/2013	03/31/2013	03/31/2013	
Comments (incl. % achievement)	Component 3 indicator: Achieved. 2 articles submitted for review before EOP.				
Indicator 12 :	Pelagics: ship-based surveys and data collection to assess the potential of new and existing fisheries.				
Value (quantitative or Qualitative)	None	N/A	6 surveys completed	21 cruises completed of which 9 SWIOFP- financed.	
Date achieved	06/28/2007	03/31/2013	03/31/2013	03/31/2013	
Comments (incl. % achievement)	Component 4 indicator: Achieved.				
Indicator 13 :	Pelagics: production of R	etrospective Analyse	es for major pel	agic fisheries	
Value (quantitative or Qualitative)	Some data available on stock dynamics, full baseline unknown	Dissemination of reports and finalization of sub- regional reports.	Retrospective analysis of two fishing sectors completed	Retrospective analyses completed	
Date achieved	06/28/2007	03/31/2013	03/31/2013	03/31/2013	
Comments (incl. %	Component 4 indicator. A	chieved.			

achievement)					
Indicator 14 :	Pelagics: Capacity Buildin	ng by completing of	Masters of Sci	ences (MSc).	
Value (quantitative or Qualitative)	0	Completion of 2 MSc theses.	Completion of 3 MSc theses	5 MSc theses completed, 2 submitted.	
Date achieved	06/28/2007	03/31/2013	03/31/2013	03/31/2013	
Comments (incl. % achievement)	Component 4 indicator: A EOP.	Achieved. 5 MSc th	eses completed	and 2 submitted by	
Indicator 15 :	Pelagics: Number of publ	ished articles based	on SWIOFP su	rvey data.	
Value (quantitative or Qualitative)	0	Number of articles submitted for review.	At least 4 peer-reviewed publications prepared and/or submitted		
Date achieved	06/28/2007	03/31/2013	03/31/2013	03/31/2013	
Comments (incl. % achievement)	Component 4 indicator: Achieved, exceeded target. 6 articles prepared, submitted and published.				
Indicator 16 :	Observer programme in place for monitoring fisheries interaction with non- consumptive marine resources.				
Value (quantitative or Qualitative)	No observer program in place	7 observer programs in place	7 observer programs in place N/A 6 observer financed b SWIOEP		
Date achieved	06/28/2007	03/31/2013	03/31/2013	03/31/2013	
Comments (incl. % achievement)	Component 5 indicator: Substantially Achieved. A 7th observer program has been implemented in June 2013.				
Indicator 17 :	Mapping of hotspots, sensitive zones and protected areas and Biodiversity reference sites.				
Value (quantitative or Qualitative)	No map produced	N/A	Maps produced	Maps produced	
Date achieved	06/28/2007	03/31/2013	03/31/2013	03/31/2013	
Comments (incl. % achievement)	Component 5 indicator: Achieved. Maps produced inclusive of hotspots, sensitive areas (primary threats identified), protected areas, biodiversity reference sites (primary emblematic species identified).				
Indicator 18 :	Biodiversity: Capacity bu	ilding by completing	g of Masters of	Science (MSc)	
Value (quantitative or Qualitative)	0	N/A	2 MSc close to completion	3 MSc applications approved. 1 thesis submitted to peer- review, and one in final drafting.	
Date achieved	06/28/2007	03/31/2013	03/31/2013	03/31/2013	
Comments (incl. %	Component 5 indicator: Achieved. Two MSc close to completion (1 submitted to peer-review and 1 drafted by EOP).				

achievement)					
Indicator 19 :	Rapid By-catch assessment beneficiary countries.	nt (RBA) for small-s	scale fisheries r	ealized in all	
Value (quantitative or Qualitative)	0	N/A	RBA report completed for 8 countries	4 RBA reports completed	
Date achieved	06/28/2007	03/31/2013	03/31/2013	03/31/2013	
Comments (incl. % achievement)	Component 5 indicator: S countries lacking by-catch Mauritius).	ubstantially Achieven information (Moza	ed. RBA compl ambique, Tanza	eted for the four nia, Kenya, and	
Indicator 20 :	Review of national fisher harmonization is needed.	ies regulations and i	dentification of	areas where	
Value (quantitative or Qualitative)	Harmonizations of fisheries policy in SADC coastal countries.	Implementation of significant elements of the action plan completed.	Implementatio n of harmonized guidelines (7 countries).	Fisheries legislation harmonization report finalized, harmonization occurred in 1 country, underway in the 6 other	
Date achieved	06/28/2007 03/31/2013 03/31/2013		03/31/2013	03/31/2013	
Comments (incl. % achievement)	Component 6 indicator: I fisheries law, while 6 othe the Project's report.	Partially achieved. Ner member countries	Aozambique has are reviewing	adopted a new their law in light of	
Indicator 21 :	Establishment of a functional working relationship between SWIOFP and Southwest Indian Ocean Fisheries Commission.				
Value (quantitative or Qualitative)	SWIOFC established in November 2004	Review by the SWIOFC of contribution of SWIOFP and of the compliance of countries to regional management decisions.	N/A	Functional relationship was established through the setting of the SWIOFP Steering Committee as an ad-hoc working group of the SWIOFC.	
Date achieved	06/28/2007	03/31/2013	03/31/2013	03/31/2013	
Comments (incl. % achievement)	Component 6 indicator: A actively in all SWIOFC m	Achieved. SWIOFP neetings.	beneficiary cou	ntries participated	

G. R	atings o	f Project	Performance	in	<b>ISRs</b>
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No.	Date ISR Archived	GEO	IP	Actual Disbursements (USD millions)
1	08/30/2007	Moderately Unsatisfactory	Satisfactory	0.00
2	06/06/2008	Moderately Unsatisfactory	Moderately Unsatisfactory	1.50
3	12/19/2008	Satisfactory	Satisfactory	1.50
4	05/26/2009	Satisfactory	Satisfactory	1.54
5	12/22/2009	Moderately Satisfactory	Moderately Satisfactory	2.89
6	06/26/2010	Moderately Satisfactory	Moderately Satisfactory	3.48
7	03/23/2011	Moderately Unsatisfactory	Moderately Unsatisfactory	4.77
8	07/11/2011	Moderately Satisfactory	Moderately Satisfactory	6.99
9	12/12/2011	Moderately Satisfactory	Satisfactory	10.09
10	06/20/2012	Satisfactory	Satisfactory	10.09
11	01/15/2013	Satisfactory	Satisfactory	12.00
12	10/01/2013	Moderately Satisfactory	Satisfactory	11.94

# H. Restructuring (if any)

Restructuring	Board	ISR Ratings at Restructuring		Amount Disbursed at	Reason for Restructuring &	
Date(s)	Approved GEO Change	GEO	IP	Restructuring in USD millions	Key Changes Made	
11/30/2011		MS	MS	7.23	The results framework and monitoring have been simplified and clarified. Budget was reallocated to reflect changes in means of implementation, revalidation of a number of priorities and focus.	
03/07/2013		S	S	12.00	Budget was reallocated to reflect the regional nature of expenses incurred by the project and reduce unnecessary administrative procedures.	



# I. Disbursement Profile

# 1. Project Context, Global Environment Objectives and Design

1. The Global Environment Facility (GEF) supports environmentally and socially sustainable management of shared marine resources such as fisheries through its International Waters (OP8) and Biodiversity (OP2) focal areas. The Southwest Indian Ocean Fisheries Project (SWIOFP) was funded under both focal areas to help develop a sustainable model for management of regionally-shared fish stocks. The development of this model followed the Large Marine Ecosystem (LME) approach developed as a tool for enabling ecosystem-based management and to provide a collaborative approach to management of resources within shared boundaries.

2. The SWIOFP was one of three linked projects using this methodology to address resource management issues in two LMEs in the Southwest Indian Ocean (SWIO), the Agulhas Current and the Somali Current. The core project is the Agulhas and Somali Currents Large Marine Ecosystems (ASCLME) Project implemented by the United Nations Development Programme (UNDP), and the other is the Western Indian Ocean Land Based Impacts on the Marine Environment Project (WIO-LaB), implemented by the United Nations Environment Programme (UNEP). The ASCLME project, along with the associated WIO-Lab project would provide the descriptive information about the targeted LMEs to the SWIOFP.

3. The SWIOFP's objective was to use these data to develop a long-term, environmentally sustainable, management strategy that would link biodiversity protection of fish species (offshore exploited fish stocks) to the sustainable use of the fisheries.

# 1.1 Context at Appraisal

4. The South West Indian Ocean contains several high-value commercial fisheries and also supports a large number of endemic and threatened species, many of which are under increasing direct and indirect pressure from commercial fishing. The West Indian Ocean is one of the largest marine environments in the world (eight percent of total marine waters and 30 million square kilometers) and contains some of the world's most dynamic and variable large marine ecosystems. One of the most valuable assets of the West Indian Ocean region is its biodiversity where more than 10,000 species of marine fish and invertebrates have been described from this East African Marine Ecoregion, with several zones of exceptionally high levels of endemism identified. The coastal zone of the SWIO represents a source of major economic activity for the estimated 140 million people who live within the countries along its boundaries, and for the estimated 28-30 million people in the coastal zones. In some of the SWIO, fish represents the primary source of animal protein available to the local populations, as well as vital sources of earnings from the fisheries products and licensing<sup>1</sup>.

5. The African countries and the island states bordering on the Agulhas and Somali Current LME however, faced rapidly growing coastal communities, coastal pollution and degradation, and unregulated fishing by local inhabitants and foreign fishing fleets. Nearly 95 percent of the global yield of fish and other living marine resources are produced in the LMEs.

<sup>&</sup>lt;sup>1</sup> PAD, Section A.1, pp. 2-5,

6. Little was known of species composition of fish stocks in offshore areas. The potential of the West Indian Ocean for commercial deep-sea fisheries or what was being exploited was also unknown. It was likely that distant water fishing fleets were depleting the West Indian Ocean fisheries resources within the 200-mile Exclusive Economic Zone (EEZ) of some of the countries. Without this information, there are barriers to establishing management institutions under the Law of the Sea<sup>2</sup>.

7. The rationale for Bank/GEF involvement was to mobilize bilateral grants (GEF, IDAfinanced Adaptable Program Loan (APL)) to establish the status of fish stocks, their viability, assess future pressures and potential economic values, and make information accessible to the countries that are beneficiaries of the Project. Such funding was also to be used to develop the institutions and frameworks necessary to sustainably manage the economically valuable fisheries, conserve for artisanal and community purposes the overlapping near-shore fisheries, sustain the related biodiversity, and mobilize coastal communities.

8. Within this context, the GEF, particularly through its International Waters program, recommended that countries sharing an LME jointly address coastal and marine issues by analyzing scientific information on trans-boundary concerns and their root causes, setting priorities for action, and acting through national and regional policy and legal and institutional reforms to successfully manage these shared resources.

## **1.2 Original Global Environment Objectives (GEO) and Key Indicators** (as approved).

9. The Project's GEO is to promote the environmentally sustainable use of fish resources through adoption by countries riparian to the Southwest Indian Ocean of a Large Marine Ecosystem (LME)-based approach to fisheries management in the Agulhas and Somali LMEs that recognizes the importance of preserving biodiversity.

**Key Performance Indicators for the GEO** (as approved and as stated in Project Appraisal Document (PAD) main text)<sup>3</sup>:

- (a) To identify and study exploitable offshore fish stocks within the SWIO, and more specifically to become able to differentiate between environmental (LME-related) and anthropogenic impacts on shared fisheries.
- (b) To develop institutional and human capacity through training and career building needed to undertake and sustain an ecosystem approach to natural resource management consistent with World Summit on Sustainable Development (WSSD) marine targets.
- (c) To foster development of a regional fisheries management structure for implementing the LME-based approach to ecosystem based management through strengthening the Southwest Indian Ocean Fisheries Commission (SWIOFC) and other relevant regional bodies.

<sup>&</sup>lt;sup>2</sup> United Nations Convention on the Law of the Sea (UNCLOS).

<sup>&</sup>lt;sup>3</sup> Ref. PAD Section B.3, para. 44, p. 16.

(d) To mainstream biodiversity in national fisheries management policy and legislation, and through national participation in regional organizations that promote sustainable exploitation of fisheries resources.

10. The **Original Project Development Objectives (PDO)** were to: (i) identify and study exploitable offshore fish stocks within the Project Area, and differentiate between environmental and anthropogenic impacts on shared fisheries; (ii) develop institutional and human capacity through training and career building; (iii) develop a regional fisheries management structure and associated harmonized legislation; and (iv) mainstream biodiversity in national fisheries management policy and through national participation in regional organizations that promote sustainable exploitation of fisheries resources.

## Key Performance Indicators for the PDO:

- (a) Adoption of at least one national or multi-national management plan for a specific demersal, pelagic or crustacean fishery by each Participating Country by the end of the Project.
- (b) Regional fisheries database fully operational and inclusive of new and historic data, which contributes to the development of regional management plans for at least two fisheries by end of the Project.
- (c) Production of a baseline assessment (accompanied by a database) that defines the current status of relevant crustacean, demersal and pelagic fisheries in each of the SWIOFP countries by the end of the Project.
- (d) Production of a sustainable fisheries management framework leveraged onto the agenda of regional fisheries management bodies that include biodiversity conservation as underlying principle.

# **1.3 Revised GEO** (*as approved by original approving authority*) and Key Indicators, and reasons/justification

11. Neither the GEO nor the PDO were revised. The Key Performance Indicators for the GEO were merged into the indicators for the PDO, reduced in number and scope, and revised as follows:

- (a) Development of a regionally harmonized strategy for ecosystem-based management of shared fish stocks in the SWIO adopted by all countries participating in the Project through strengthening existing regional management bodies such as the SWIOFC.
- (b) Adoption by all SWIOFP countries through the SWIOFC of a monitoring and evaluation framework (including environmental status and stress reduction indicators) that defines ecosystem.
- (c) Adoption of at least one national or multi-national plan for a specific demersal, pelagic or crustacean fishery by all countries participating in the Project.

12. Changes to the key performance indicators were made as a result of the Mid-term Review (March 2011) recommendations to revise the Results Framework table and the monitoring indicators for the GDO and PDO, realign the targeted values to reflect the delays in start-up, and redefine what could be realistically achieved in the time remaining for implementation. The changes were approved in a Special Session of the Project's Regional and Policy Steering Committee held on March 12, 2011.

#### 1.4 Main Beneficiaries

13. The Project's primary target group were the technical institutions of the governments of nine countries<sup>4</sup> participating in the SWIOFP: Comoros, France (by virtue of its islands in the region, i.e., Réunion and islands in the Mozambique Channel), Kenya, Madagascar, Mauritius, Mozambique, Seychelles, South Africa (East Coast only), the United Republic of Tanzania<sup>5</sup>, and Somalia (as formal observer). The SWIOFP provided financing to support regional and national fisheries resource management initiatives, within the scope of the Project, and strengthened the framework within which the governments and relevant institutions could collaborate more effectively to plan and manage such resources.

- 14. Other organizations expected to benefit from the Project were:
  - (a) The implementation agencies of the two projects linked to the SWIOFP and applying the LME approach: the ASCLME project implemented by the UNDP, the WIO-Lab project implemented by the UNEP;
  - (b) Regional institutions, supported with institutional strengthening and knowledge sharing activities, included the SWIOFC, Indian Ocean Tuna Commission (IOTC), and the Indian Ocean Commission (IOC);
  - (c) A limited number of Non-Governmental Organizations (NGO) contracted for data collection, research or monitoring activities (e.g., turtle tagging program);
  - (d) Contractors for commercial fishing vessels wet-leased for survey activities, and private contractors who were suppliers/installers of technical equipment; and
  - (e) Other partner institutions and projects such as: EAF-Nansen project and the "Indiseas" Program (funded by the European Union (EU)) which will benefit from shared research and survey data collected through the SWIOFP.

15. Individuals benefitting from direct support under the Project include the students who were recipients of the Masters of Science (MSc), Bachelors of Science (BSc) funding, and support for doctoral (PhD) programs provided through participation in the research and survey activities of the Project.

## **1.5 Original Components (***as approved***)**

16. Component 1: Data Gap Analysis, Data Archiving, and Information Technology (GEF financing \$1.9 million)<sup>6</sup>. (Lead Country – Kenya). The component objective was to establish a regional fisheries database managed in conjunction with the UNDP-ASCLME Project. The subcomponents were:

<sup>&</sup>lt;sup>4</sup> Although nine countries have participated in Project activities, France was not a recipient of the GEF grant, but was a participating country through the islands which are under French administration in the area.

<sup>&</sup>lt;sup>5</sup> The United Republic of Tanzania consists of the Tanzanian Mainland and the People's Revolutionary Government of Zanzibar. Fisheries are not a "union" issue and representatives of both the Mainland fisheries and Zanzibar fisheries agencies participated in SWIOFP preparation.

<sup>&</sup>lt;sup>6</sup> For a detailed analysis of total incremental costs to GEF financing, please refer to the PAD, Annex 5 "Incremental Cost Analysis", pp. 156-169.

Subcomponent 1.1: Fisheries data collection and evaluation.
Subcomponent 1.2: Compiling of a data atlas for SWIOFP.
Subcomponent 1.3: Establishment of information technology, data handling and communication systems.

17. **Component 2: Assessment and Sustainable Utilization of Crustaceans** (GEF financing \$2.9 million). (Lead Country: South Africa). The component objective was to undertake an assessment of the stock dynamics of shallow and deep water crustaceans and their fisheries. The subcomponents were:

Subcomponent 2.1: Deep-water crustaceans. Subcomponent 2.2: Shallow-water crustaceans.

18. **Component 3: Assessment and Sustainable Utilization of Demersal Fishes** (excluding crustaceans) (GEF financing \$2.3 million). (Lead Country: Tanzania). The component objective was to support assessment of the stock dynamics of demersal species and their fisheries. The subcomponents were:

Subcomponent 3.1: Deep-water demersal fish. Subcomponent 3.2: Shallow-water demersal fish.

19. **Component 4: Assessment and Sustainable Utilization of Pelagic Fish** (GEF funding \$2.4 million). (Lead Country: Seychelles). The component objective was to assess the stock dynamics of large, small, and mesopelagic species and develop strategies to optimize small- and large-scale pelagic fisheries, including fish aggregating devices (FADs). The subcomponents were:

Subcomponent 4.1: Large pelagic species. Subcomponent 4.2: Small pelagic species. Subcomponent 4.3: Super-small pelagic species.

20. Component 5: Mainstreaming Biodiversity in national and regional fisheries Management (GEF financing \$0.5 million through the Biodiversity Focal Area). (Lead Country: Mauritius). The component objective was to support improved understanding of the overall relationships between SWIO fisheries and biodiversity, and how these relationships can be best managed at the national and regional levels. The subcomponents are:

Subcomponent 5.1:	Assessment of state of knowledge of non-consumptive resources and
	marine biodiversity within the SWIOFP for inclusion in the Data Atlas.
Subcomponent 5.2:	Identification, through field data collection, of key biodiversity values
	in the two LMEs.
Subcomponent 5.3:	Interactions with fisheries.
Subcomponent 5.4:	Bio-indicators of ecosystem health. (shared with the ASCLME).

21. Component 6: Strengthening Regional and National Fisheries Management (GEF Financing \$2.0 million). (Lead Country: Kenya - for Project management aspects). The component objective was to support the emerging regional fisheries management framework in the SWIO and build capacity in regional and national fisheries management bodies. The subcomponents were:

Subcomponent 6.1:	Identification of relevant national and international legislation and
_	other instruments relevant to the SWIOFP goal.
Subcomponent 6.2:	Harmonization of legislation between countries.
Subcomponent 6.3:	Development of regional resource management structures and
	capacity.
Subcomponent 6.4:	SWIOFP project administration and national and regional facilities.

#### **1.6 Revised Components**

22. The components were not revised following Board Approval.

#### 1.7 Other significant changes

- 23. The following changes were made:
  - (a) Early project design originally had seven components three which focused on fisheries management issues and four on research; one of the components, "Monitoring, Surveillance and Compliance of Fishing Effort and Catch", was later dropped due to shortage of funding.
  - (b) The number of signatories to the Special Account (SA) was increased from three to four early in implementation to include the Regional Executive Secretary (RES); this was to facilitate disbursements in the case of absences.
  - (c) Following recommendations made as a result of the Mid-term Review (MTR), the performance indicators were revised to take into account start-up delays and to reset targets to a realistic level for the remaining implementation timeframe.
  - (d) Reallocations of funds were made to reflect increased budget needs for ship-based surveys, decrease in expenses for consultants, and increasing expenses for operating costs (Component 6 "Strengthening Regional and National Fisheries Management") due to the large coordination efforts required for activities which were cross-cutting and regional in nature.

# 2. Key Factors Affecting Implementation and Outcomes

#### 2.1 Project Preparation, Design and Quality at Entry

24. **Project Preparation and Participatory Processes.** The preparation phase, from 2002-2007, was key in obtaining the countries' ownership of the SWIOFP. It was a collaborative effort between countries, with each country sharing responsibilities for key portfolios: (a) science planning – South Africa, (b) data management – Kenya, (c) operations and procurement – Tanzania, (d) project management – Madagascar, (e) legal issues – France, and (f) Secretariat – Mozambique.

25. The decision to develop a research project with a scientific and capacity-building focus as a first step towards promoting a regional model of environmentally sustainable management of fisheries was taken as a result of a series of technical workshops, hosted by different participating countries over the preparation phase. The World Bank, consultants, members of the project steering committee of the ASCLME, and country representatives were invited to attend. The proposals for scientific research reflected country priorities and formed the basis for design of the Project

components. The country governments were fully briefed on developments during plenary sessions and involved in the selection of key activities. The country-driven process was also instrumental in maintaining ownership of the Project during implementation.

26. The Bank supported preparation with three preparation grants funded by the GEF, a PDF-A and two PDF-B/PPG, totaling \$720,000, to support the following: the initial planning conference, the creation of a project implementation unit, and related expenses for the preparation of the SWIOFP.

27. **Stakeholder Involvement and Project Partnerships**. Stakeholders were identified at preparation in the context of joint LME projects (ASCLME and WIO-Lab). Broad consultations were held with stakeholders <sup>7</sup> in the nine countries during preparation stage, and respective fisheries experts and representatives of fisheries management institutions of different countries were involved in planning of activities. Stakeholders included participating government fisheries management and fisheries research institutions. Fisheries industry representatives, oceanographic research institutes from the region, and a variety of institutions involved in marine ecology and biodiversity research, and institutions or groups involved in coastal and marine management.

28. Donor coordination happened early in the preparation phase (2002) when UNDP and the World Bank agreed to integrate the activities of the two projects (SWIOFP and ASCLME) as much as possible to ensure that the output of the fisheries and oceanographic components of the LME were mutually supportive. Donor coordination was also strong in attracting other institutions involved in fisheries to support the preparation phase<sup>8</sup>.

29. **Project Design** contained an appropriate mix of fisheries research and management to be implemented in a clearly outlined three-phased approach. Results from stock assessments in the region were meant to provide the scientific base for targeting key fisheries, assess their status, identify shared fisheries resources (unknown at the time) apart from tuna, assess their commercial potentials, and provide input for countries in the region to make decisions and strengthen fisheries resource management at the national level (through fisheries management plans) and at regional level (Transboundary Diagnostic Analysis (TDA), Strategic Action Plan (SAP)).

30. Project design was also anchored in national institutions and used a newly established regional organization, the South West Indian Ocean Fisheries Commission (SWIOFC) (established by the Food and Agriculture Organization (FAO) in 2004) to ground the policy and steering committee for the Project. This ensured that activities were mainstreamed into the national

<sup>&</sup>lt;sup>7</sup> Stakeholders included participating government fisheries management and fisheries research institutions. Fisheries industry representatives, oceanographic research institutes from the region, and a variety of institutions involved in marine ecology and biodiversity research, and institutions or groups involved in coastal and marine management. For a detailed stakeholder list, see PAD Annex 17, Table 13 "Stakeholder Groups, Participation and Linkage to SWIOFP".

<sup>&</sup>lt;sup>8</sup> Funding partners for the initial preparation conference included: SADC, UNEP, IUCN, FAO, NORAD, ICEIDA, DANIDA, and the Republic of Ireland. Countries which were interested in participating grew from the initial four (Kenya, Mozambique, South Africa, Tanzania) to the current nine countries during this time.

institutions' work program and avoided creating additional institutions in the countries. The choice of components by theme and by lead country was designed so that each member country participates in the core fisheries management components and selects only those other components relevant to its own content. The design also ensured that each participating country had a lead role, and therefore, an equal share of accountability and stake in the Project's success.

31. The implementation structure (one Grant Agreement, one SA/Designated Account (DA) managed by the Regional Management Unit (RMU), and eight Project Agreements) was streamlined and functional, and allowed for changes to the Project (reallocation of funds between categories and between countries) to be implemented through changes to a single Grant Agreement whose recipient was Kenya. Implementation arrangements were streamlined through a coordinating unit, the RMU, hosted at the Kenya Marine Fisheries Research Institute (KMFRI), responsible for coordinating the project activities of National Management Units (NMUs) located in each of the participating countries. It was also the apex unit for fiduciary and project progress reporting.

32. Project design, however, was ambitious in that it stipulated certain targeted outputs for the Project's timeframe which were difficult to achieve, e.g., one or more sub-regional fisheries management plans, establishing a region-wide national observer program, and drafting an integrated TDA and SAP between the three LME projects, but failed to consider the different implementation periods of each output. The integrated TDA and SAP, for example, required close coordination of implementation timeframe and progress between the three projects; however, the WIO-Lab project closed almost two years earlier than the ASCLME and SWIOFP which made the integration difficult. The ASCLME and SWIOFP were better aligned later in implementation (from 2011 onwards) with the same closing dates. Establishing a sub-regional fisheries management plan was sequential to the research findings and analysis which were still being finalized during the latter part of the project. A region-wide national observer program required that national observer programs be operational first. These latter were still being established for most of the countries by the end of the Project.

33. The Recipient Implementation Completion and Results Report  $(ICR)^9$  flags that the Project's design placed a strong emphasis on surveys which were to identify new stocks to be considered in fisheries management initiatives. However, not many new stocks could be identified and this weakened the link between the surveys data collection and fisheries management. The report also mentions that it was assumed that there were many offshore non-tuna/billfish shared between countries that need to be managed regionally. Experience showed, however, that, while there were some shared non-tuna stocks, most are not shared regionally, i.e., they are only shared between a limited number of countries.

34. *Lessons from Bank experience* on projects with multiple funding sources, complex programs, and other regional International Waters (IW) and Biodiversity Conservation projects were incorporated into the design. These included: the Lake Victoria Environmental Management Project, the Lake Malawi Biodiversity Management Project, programs supported by GEF such as the

<sup>&</sup>lt;sup>9</sup> The report was prepared by the Participating Countries (Comoros, Kenya, Madagascar, Mauritius, Mozambique, Reunion, Tanzania, Seychelles, and South Africa) for the South West Indian Ocean Fisheries Project, March 2012, Report prepared by ICR consultant, Graeme Macfadyen, Poseidon Consulting.

Benguela Current LME dealing with transboundary issues and is considered a success, UNDP projects such as the Black Sea Ecosystem Recovery Project with early experiences of National Strategic Action Programs, and the Tanzania Marine and Coastal Environment Management and Environmental Management Project. These projects are IW and biodiversity projects which are LME projects, involve the research side of fisheries management, are multi-sectorial in nature, and are complex to implement requiring large coordination efforts. The LME approach, and its applicability to fisheries management, was considered a relatively new approach at the time, particularly for the SWIO area.

35. **Quality at Entry.** Measures to assure quality at entry<sup>10</sup> were adequate. Internal review processes at the Bank and GEF noted the innovative features of the Project which were unique to Bank operations, and the usefulness of following closely how well the Project's new legal and managerial initiatives met expectations during implementation. One of the innovative features was the arrangement of having one country (Kenya) act as Grant recipient on behalf of all eight countries which proved to be a pragmatic approach compensating for the lack of an established regional institution at the time. Establishing linkages with the sister projects to establish an LME approach was established early in preparation with the support of relevant partners and donors (UNEP and UNDP).

36. The Project could provide valuable guidance in the design of other regional initiatives. The GEF endorsed the Project because it was a crucial element in the protection of the Agulhas and Somali Current LME, and was central to the strategic focus on sustainable fisheries of the GEF program.

37. On the fiduciary side, financial management capacity assessment was sufficient. However, procurement planning did not sufficiently anticipate the need for a procurement specialist, even parttime or on an initial contractual basis in the event that circumstances might change, as with the case of piracy disrupting survey cruises. Administrative oversight did not identify the discrepancy between the implementation period specified in the Grant Agreement (4 years) and that of the PAD (5 years), and the Results Monitoring and Evaluation Framework, although relevant, was poorly stated in the annex of the PAD.

38. *Risk Assessment*. The Project team correctly identified in the PAD the risks within the scope of control of the Project. Risk mitigation measures were appropriate. Piracy was the only risk not identified and mitigation measures were taken during implementation to carry out project activities using alternative vessels and resources (for the impact of piracy on the Project, see Annex 2).

## 2.2 Implementation

39. The date of effectiveness was extended from October 9, 2007 to April 9, 2008 (i.e., by 6 months), then extended for a second time to April 16, 2008. The reason was delays by South Africa in signing the Project Agreement within the specified period.

<sup>&</sup>lt;sup>10</sup> Quality at entry included: sound Project concept, objectives and approach, adequate technical, financial and economic analysis, adequate consideration of environmental and social safeguards, fiduciary assessments, relevance to policy and institutional context, implementation arrangements and risk assessment.

40. Implementation began with a Project launch in July 2008. The Project experienced start-up delays during the first two years of implementation and was moderately at risk due to the following: (a) the RMU was fully staffed late (in 2010); it was staffed with an RES (until July 2009), a Regional Finance and Procurement Manager (recruited in April 2009), an Information Technology Manager, and a Ships Manager/Logistics Coordinator; until then, it was operating with an interim RES and an Administrative Assistant; (b) the Project's SA/DA was opened at the wrong location; (c) piracy incidences in the region which disrupted data collection and research cruise activities; (d) slow pace of implementation at country and regional levels, delays in nominations to posts or staff turnover (National Component Coordinators, Regional Component Coordinators); and (e) slow disbursements due to slow procurement.

41. The incidence of piracy disrupted planned research cruises and obliged the Project to assume the costs of leasing vessels to complete the research survey program. Such costs were estimated to be carried by other donors and through national research vessels. This added an additional procurement burden and budgeting challenge; however, the Project remained flexible in its resolution of the problems and the surveys were carried out.

42. The Ships Manager/Logistics Coordinator position was a key position at the RMU which was not filled until November 2010. The Project had difficulties attracting qualified candidates and had to submit two rounds of advertising before a suitable candidate was finally recruited and related activities began to accelerate.

43. The Project demanded a large coordination effort on the part of the RMU, and stakeholders. Work planning and budgeting, clarification of roles and responsibilities (e.g., Government of Kenya as grant recipient and SWIOFC as the regional policy and steering body), logistics and planning, and language requirements (French, English, Portuguese) contributed to early delays. Procurement delays were persistent due to the shortage of staff at the RMU and the cumbersome procurement procedures caused by the need to comply with both the country's (Kenya) procurement procedures and the Bank's. In December 2009, actual disbursements (26.7 percent) were lagging behind projections (39.7 percent).

44. However, the MTR (March 2011 – about three years after effectiveness) assessed that Project objectives were achievable despite initial delays: momentum was building, progress was continuing on data collection and analysis, a regional management structure was being established through the increasing use of SWIOFC as a regional discussion forum for fisheries work planning and issues, and participating countries and partners remained committed to the Project's objectives despite the challenges. Actions taken following the MTR included a realignment of the Project duration (from four years in the Grant Agreement, to five years as contained in the PAD); a revision of the results framework and Key Project Indicators, a revision of component outcome indicators and target values, to a realistic level corresponding to the remaining Project timeline.

45. During the MTR, the Project attracted new sources of co-financing from donors and institutions interested in fisheries in the region, including the French Government through the *Institut de Recherche pour le Développement* (IRD) and the *Institut Français de Recherche pour l'Exploitation de la Mer* (IFREMER), IOTC and the World Wide Fund for Nature (WWF) (see Annex 1(b) – Project Costs and Financing Table). Co-financing was mainly in the form of researcher staff time, ship vessels use, and resources for technical training.

46. Following the MTR, implementation accelerated as institutions became more familiar with implementing the regional Project, so that by mid-2012, disbursements reached 84 percent of projections (due in part to the Project having to finance research cruises which were to be funded by Norway (through the FAO for the lease of a research vessel) and by national research vessels).

47. The original closing date of November 30, 2011 was extended to March 31, 2013 to realign the project duration to a five-year time frame, and to coincide with the ASCLME's closing date for the completion of the joint TDA and the SAP, to be coordinated by the ASCLME, for the three linked projects: Western Indian Ocean Land Based Impacts on the Marine Environment Project – WIO-Lab, Agulhas and Somali Currents Large Marine Ecosystems Project – ASCLME, and the SWIOFP.

48. At End of Project (EOP), a substantial part of the revised Key Project Indicators had been met, and the majority of the revised component outcome indicators had been met.

# 2.3 Monitoring and Evaluation (M&E) Design, Implementation and Utilization

49. The M&E design presented some shortcomings. The choice of key project indicators was appropriate for measuring desired outcomes from the Project and was clearly linked to the GEO. The indicator on the "Production and adoption of at least two sub-regional management plans ... governing management of a specific transboundary fishery..." was removed at MTR because there was no clear indication of a transboundary fishery as a result of data collection. However, given that this was unknown at the time of appraisal, this indicator was appropriate at Project design stage. The choice of indicators, baseline and EOP target values for the GEO were not appropriate and too ambitious (e.g., adoption of at least three sub-regional management plans, finalization and formal adoption of environmental status and stress reduction indicators). Arrangements for reporting to be carried at the level of the RMU were appropriate since this was the level of aggregation for project reporting.

50. The M&E, however, was poorly stated in the PAD's main text and in the Annex 3 – Results Framework and Monitoring making its utilization difficult. The GEO indicators in the main text were different from the Annex. The PDO was confusing and contained multiple objectives for which multiple indicators were formulated, but which linked to only two of the objectives. There was some confusion over output and outcome indicators in the main text and the breakdown of intermediate level outcome indicators and EOP outcome indicators in the Annex was unnecessarily detailed. This was revised during MTR to facilitate follow-up as well as to reflect the modifications and merging of some of the indicators.

51. M&E indicators and follow-up were progressively reviewed during implementation assistance missions and improved and eventually revised at the MTR. M&E was carried out collaboratively with the participation of countries and discussions on revised indicators involved all countries concerned and provided guidance to track project progress during implementation.

# 2.4 Safeguard and Fiduciary Compliance

52. *Safeguards*. The Project was rated a Category "C", not requiring an assessment. There were no safeguard issues during implementation.

53. *Financial Management* of the Project was adequate. Early in implementation (2009) there were some delays which were eventually resolved. The NMU had a mixed record of submitting Interim Financial Reports to the Bank in a timely manner until end 2011. The Project's SA/DA was erroneously opened in Nairobi as a Treasury DA at start-up. The RMU lost control of a balance of about \$400,000, until it was finally transferred to the Project's DA in August 2011. Some irregularities on small expenditures were noted during the final supervision mission, but overall, the Bank's reviews on financial management at end of project was rated "Satisfactory".

54. Procurement. Procurement entailed limited amounts of small works (construction of fish aggregation devices), national and a small amount of international shopping, and consultant services. Overall, the compliance with Bank rules and procedures on procurement was rated "Satisfactory" by the Bank's internal reviewers. However, delays in procurement did occur, due to several reasons: no dedicated procurement officer recruited for the RMU, dual compliance requirements with Kenyan Government procurement and Bank procurement procedures, and lack of familiarity with Bank procedures at start-up. Procurement was carried out mainly by the Financial Manager who also acted as Procurement Manager, with the support of the RES. Furthermore, because of the small amounts of procurement contracts planned at appraisal (most of the cruises were to be carried out by the FAO/Norwegian research vessel R/V Dr. Fridtjof Nansen or by national research vessels), the Bank did not see the need and, therefore, did not stipulate the recruitment of a separate procurement specialist in the Grant Agreement. This need changed when the Project was forced to assume the costs of research cruises (through leasing of commercial vessels) when the piracy incidences increased and the contributions of research vessels committed at appraisal did not materialize. The RMU did launch the recruitment process for a procurement manager following recommendations made at the MTR, but because of procurement delays caused and cumbersome procedures (use of country systems) the process took close to a year, by which time very few procurement contracts remained until the Project closed, so it was cancelled.

55. Despite the difficulties, the Project management units showed remarkable flexibility in adjusting to the changes in conditions regarding surveys. Through flexibility and organization, the project implementing units managed to continue the research cruises and complete most of the surveys in the time remaining.

#### **2.5 Post-completion Operation/Next Phase**

56. Under the Project, a strengthened the SWIOFC, whose responsibilities included acting as the Regional Policy and Steering Committee (RPSC) and as the Scientific Committee, worked closely not only with participating countries, but also with other donor agencies (FAO, *Fonds Français pour l'Environnement Mondial* (FFEM), WWF) and projects (ASCLME, EAF-Nansen). A review by the SWIO countries of SWIOFC's performance rated positively the Commission's valuable contribution and effectiveness in the region, enhanced by a proposal to broaden its role further from, not only an advisory, but also regulatory Commission for the region. Discussion is ongoing as to the extent to which the Commission could make decisions and recommendations which will be binding on participating SWIOFC's transformation from an advisory to a regulatory body. In support of this preparation, Mozambique has proposed to host the future headquarters of the SWIOFC and would finance the office through the IDA allocation from the South West Indian Ocean Fisheries Governance and Shared Growth Program (SWIOFish), a World Bank and GEF project currently

under preparation. SWIOFish will build on the results of the SWIOFP to develop sustainable fisheries resource management through strengthening governance capacity to manage fisheries, providing investments to harness sustainable fisheries to national economies and strengthen further regional cooperation.

57. In addition, a \$1.1 Million grant to the IOC has been approved from the Development Grant Facility (DGF) under the Global Partnership for Oceans (GPO) in Support of Rights-Based Fisheries. The grant supports key activities of the SWIOFC and IOTC, through the IOC. The grant agreement was signed with IOC in February 2013. The SWIOFC will be the Steering Committee approving work plans and budget, a similar arrangement to the SWIOFP.

## Sustainability

58. Issues to consider for sustainability are: (i) mainstreaming and maintaining the regional structure into country priorities; (ii) mainstreaming the ecosystem-based management approach launched into national work programs; (iii) devising long-term mechanisms to generate fees for the operation and maintenance costs of regional databases (including regular updating of project websites and inputting of data); and (iv) securing sustainable financing for SWIOFC's continuing operations.

# 3. Assessment of Outcomes

# 3.1 Relevance of Objectives, Design and Implementation

59. In terms of relevance to global priorities, the Project's objectives were to promote an ecosystem-based approach to fisheries management in the ASCLME which was strongly driven by the research needs of fisheries management in the region. As a result, the Project has contributed to filling the data gaps globally in these areas.

60. In terms of relevance to the GEF's objectives, the approach was considered new at appraisal, but was indicative of where fisheries management was moving globally. It was in line with current GEF IW emphases on fisheries management approaches for LMEs and also with current World Bank initiatives such as the GPO<sup>11</sup>, which supports the developing coastal and island countries in improving the health of their ocean resources and supports countries in transitioning to more sustainable fisheries.

# 3.2 Achievement of Global Environmental Objectives

61. Project performance is rated moderately satisfactory as most of the revised GEO objectives were substantially achieved:

<sup>&</sup>lt;sup>11</sup> The Global Partnership for Oceans is a growing alliance of over 140 governments, civil society organizations, private sector companies and associations, research institutions, UN agencies, multi-lateral banks and foundations committed to addressing the threats to the health, productivity, and resilience of the oceans. Further details are available at www.globalpartnershipforoceans.org.

- (a) The first outcome indicator for the GEO has been partially achieved. A regionally harmonized strategy is in place through collaboration with UNDP's ASCLME and UNEP's WIO-Lab and others, a joint governance and policy assessment completed with the ASCLME project, and the ecosystem approach in fisheries management (EAF) has been promoted through collaboration with the FAO EAF-Nansen project. National fisheries management plans have been prepared for all member countries using this EAF; and SWIOFC's role in regional fisheries management has been strengthened.
- (b) The second GEO outcome indicator has been substantially achieved. An M&E framework which includes environmental status and stress reduction indicators was prepared and submitted to the SWIOFC Scientific Committee for review and endorsement at EOP and approval is expected by end of 2013. Ecosystem indicators have been defined and were submitted also the SWIOFC for review at EOP but not yet adopted, and EAF scores are available for all countries.
- (c) The third GEO outcome indicator has been substantially achieved. More than one national plan for a specific fishery has been adopted. In all, 11 national fisheries management plans were prepared (Mozambique and Kenya prepared 2 plans each), of which 3 adopted (Tanzania, Madagascar, and Comoros). No multi-national plan was prepared; however, dialogues have been initiated on coordinating management plans between certain countries, with strong indications for future cross-border collaboration<sup>12</sup>.

62. Overall, the Project has resulted in an increased knowledge and awareness of the biodiversity dimensions of fisheries activities in the sector and the ecosystems approach. Data sharing is provided through regional data bases; regional management institutions have been strengthened, national fisheries resources management plans have been completed and include biodiversity-related concerns, national fisheries management agencies' capacities have been strengthened, and a network of technical specialists has been established across countries broadening the pool for expertise in the region. Technical training (e.g., observer programs, research surveys) fostered knowledge sharing and transfer as institutions with weaker capacities were able to work with regional and international experts (France, Norway) with stronger capacity in their field.

63. New insights emerged with regards to shared fish stocks in the region as a result of the Project. It was found that: (a) there were few, non-tuna-like fisheries that were shared regionally; (b) of the few fisheries that were regional, none, or very few were managed on a regional basis; (c) some biologically-linked fisheries were identified in the sub-region which provided justification for the cost of regional management; and (d) genetic assessments allowed for the identification of shared stocks across countries, which provided the justification for regional fisheries management plans developed during the SAP exercise. Therefore, the fact that the Project disproved a theory that was widely held at the time of preparation, i.e., that there were many shared, non-tuna like fish stocks in

<sup>&</sup>lt;sup>12</sup> The following countries: Kenya and Tanzania, and Madagascar and Comoros, have met to coordinate management plans (small pelagic/line fisheries), and Seychelles and Tanzania have met to exchange knowledge on the implementation of fisheries management plans. Seychelles and Mauritius will also probably collaborate on the Bank's fisheries.

the region, saved financial costs for countries which could have been managing fish stocks that were, in fact, not shared.

# **3.3 Efficiency**

64. **Cost Effectiveness.** The implementation structure of the Project relied on existing national institutions and regional structures for implementation, which represented significant contributions on the part of governments and donors to the Project's operations. Linkages with the sister LME projects included cost sharing for jointly beneficial project activities and additional donor contributions during implementation further reduced investment and operating costs for the Project. Survey and research activities were partly funded by Norway, national governments, and the French government. Piracy disrupted the planned surveys and budgeting but the Project adjusted its program and found alternatives to complete most of the surveys (see survey cost details in Annex 2 - "Survey Activities" footnote 15).

65. *Total Project Costs and Co-financing*. In addition to GEF funds, co-financing contributions were received from the French Government, Norway, and the FAO, and from the Governments of SWIO countries. Appraisal estimates for total project costs were \$22.65 million. Actual estimates are at \$22.08 million or 97 percent of appraisal estimates, with the GEF disbursing the entire amount committed (cf. Annex 1). Actual counterpart contributions from participating countries were \$6.64 million or 99 percent of appraisal estimates. Price and physical contingencies could not be estimated at EOP.

66. Encouraged by the progress of the SWIOFP during implementation, the project also attracted additional funding from the French Government (through the research institutions of IRD and IFREMER), the IOTC, and WWF. Actual costs for FAO's contribution for financing SWIOFC's personnel were higher than estimated at appraisal, while Norway's contribution was lower than projected due to the cancellation of the research vessel following piracy incidences.

67. *Rate of Return Analysis*. Because the Project was primarily driven by a fisheries research agenda, a rate of return analysis was not calculated and would not be relevant for this phase. The Project established a preliminary data inventory and built knowledge of selected target fisheries and species on which to provide a scientifically valid base for decision-making in a future phase, which would likely include productivity and commercial interests.

## **3.4 Justification of Overall Outcome Rating.**

## **Rating: Moderately Satisfactory.**

68. The Project has met most of the stated GEF objectives. The objectives and design remain highly relevant today as the global trend moves towards promoting regional collaboration in the management of fisheries resources. It has established a repository of knowledge for the region to monitor environmental and fisheries resources through capacity building activities. Global benefits include new and historical data on target species, identified gaps on transboundary and other species, biodiversity impact data, regional species baselines, and other stock assessment data. The SWIOFC is well placed to move member countries forward towards a policy and governance agenda now that the scientific baselines have been established. The strong member country commitments and donor

support represented significant and shared cost savings during preparation and throughout implementation to balance out the benefits.

## **3.5 Overarching Themes, Other Outcomes and Impacts**

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

69. The SWIOFP did not deal directly with coastal artisanal fisheries, which play the most direct role in terms of poverty reduction, as improved management of inshore stocks should have been supported by the ASCLME project. However, in partnership with the EAF-Nansen project, it contributed to the drafting of national fisheries management plans based on the EAF, which include artisanal fisheries since stocks being researched are present in both inshore and offshore areas, i.e., they are potentially exploited by artisanal fisheries in the inshore areas. Eight of the nine member countries convened EAF task groups, prepared baseline reports on specific fisheries, carried out ecological risk assessments, and drafted management plans assessing high-risk issues. The introduction of an EAF is essential for ensuring a balance between the growing catch of industrial fisheries and the need to sustain food security and employment in the region.

# (b) Institutional Change/Strengthening

70. The Project's key achievement was the institutional strengthening of existing government and regional institutions. In addition, it strengthened research and built capacity for regional fisheries management at human and institutional levels. At the national level, experts have established a network of scientists, reinforced with data access, training and technical assistance from regional and international institutions (FAO, WWF, IOTC, IOC, UNDP, UNEP, etc.). On the institutional level, national and regional institutions have exchanged and built capacity for national observer programs, stock assessments, fisheries management and development, and regional collaboration. Joint outputs such as the TDA and SAP, EAF fisheries management plans established partnerships with several regional projects and donor programs, fostered partnerships with research institutions (IRD, IFREMER, Oceanographic Research Institute (ORI)) and universities (student grants), and developed working relationships with developed countries (France, Norway). The partnerships have facilitated knowledge exchange and transfer to the SWIO countries.

71. The SWIOFC, an established regional fisheries body under the FAO, provided a forum for the scientific results of the Project to be translated into practical management, within a regional resource management framework. Under the Project, its role was strengthened through the establishment and financing of a regional work program and the insertion of the RPSC<sup>13</sup> into the SWIOFC's structure, defining a role that SWIOFC could assume once the Project implementation phase was over. In addition, an independent review<sup>14</sup> conducted in 2011 through interviews with key stakeholders and through desk study on the performance of the SWIOFC found that member

<sup>&</sup>lt;sup>13</sup> The RPSC is made up of high-level decision-makers such as the permanent secretary/Director General level representatives from government agencies hosting the National Management Units. These representatives speak for the government they are representing.

<sup>&</sup>lt;sup>14</sup> This independent review followed the FAO Committee on Fisheries demand for assessing the performance of regional fisheries bodies.

countries rated the SWIOFC as highly effective. Performance reviews of Regional Fisheries Management Organizations (RFMOs), as well as Regional Fishery Bodies (RFBs), were emphasized by the Committee of Fisheries as well as by the FAO Conference since 2007, to strengthen regional governance, modernize mandates and adopt improved approaches to management. Discussion is ongoing on how to broaden the SWIOFC's role in the future, with the possibility of transforming the Commission from an advisory, to an advisory and regulatory commission<sup>15</sup>.

#### (c) Other Unintended Outcomes and Impacts

72. The first positive unanticipated outcome of institutional strengthening was the proposal submitted by participating countries to transform the SWIOFC from an advisory body to a regulatory body. The second positive outcome was that the Project attracted additional co-financing and in-kind contributions from WWF and French research institutions, IRD and IFREMER. The third unintended outcome was that, during the course of implementation, Project activities prompted the establishment of additional databases in the region to accommodate new data: Pasgear, and the Observer data base.

#### 3.6 Summary of Findings of Beneficiary Survey and/or Stakeholder Workshops

73. No beneficiary survey was carried out.

# 4. Assessment of Risk to Development Outcome

#### Rating: High.

74. One of the main outcomes of the Project is that the countries' capacities have been strengthened to the point where regional collaboration have produced, for the first time, a regional analysis and policy documents for the two LMEs. The risks for the sustainability of these outcomes, however, are high. The issues to consider in the future are:

- (a) endorsement of the SAP by member governments, and adoption of changes to policies and regulations requiring long-term commitments;
- (b) regional and national level staff turnover leads to loss of expertise, networks, and continuity of activities;
- (c) continued instability in the operating environment (such as piracy, political/economic instability, war and natural disasters) impedes regional collaboration.

<sup>&</sup>lt;sup>15</sup> During the Special Session meeting of the RPSC/SWIOFC which took place in February 2013, member countries agreed to begin the transformation process of the SWIOFC from an FAO Article IV body with only an advisory role, to an FAO Article XIV body with both an advisory and regulatory role. This means that the SWIOFC could make recommendations related to fisheries conservation and management which are binding on its members.

75. The risks could be mitigated as follows. The TDA and SAP were screened and approved by the SWIOFC (which is also the RPSC for the Project) and the countries. It is anticipated that governments will endorse the SAP since its national experts were involved in the preparation of both the joint TDA and SAP documents. The second risk would be mitigated if the regional collaboration agenda is mainstreamed into the national fisheries institutions' work program and budget. This is expected to continue in the implementation of the fisheries management plans and the SAP agenda. The third risk could be long-term and recurrent and would be difficult to manage except through close monitoring of the security situation with the assistance of United Nations agencies and bilateral partners, and cooperation between the countries.

# 5. Assessment of Bank and Borrower Performance

#### 5.1 Bank

#### (a) Bank Performance in Ensuring Quality at Entry

#### **Rating: Moderately Satisfactory.**

76. The Bank provided an appropriate level of support and guidance during preparation which did not impede a country-driven process. The task team established strong partnerships with participating countries' governments, ensured early donor coordination to secure project partnerships and co-financing, provided adequate preparation grants for a long preparation process, carried out fiduciary assessments to ensure adequate financial management and procurement capacities, and obtained funding from the GEF mobilized under IW and Biodiversity programs. However, the overall rating is based on the multiple changes in Task Team Leaders which affected continuity, added to the duration of project preparation process and was disruptive for the recipient countries; the administrative oversight on the divergence on project length between the PAD and Legal Agreements, the ambitious outputs and targets set as indicators, and the unanticipated need for a procurement specialist for the Project.

#### (b) Quality of Supervision

#### **Rating: Satisfactory.**

77. The Bank provided implementation assistance through missions carried out on a regular basis of about every six months, rotating between the participating countries. The task team was responsive to the client countries' needs, and maintained close coordination with other donor programs through joint supervision meetings, and at times with the participation of GEF representatives. The task team provided decisive advice regarding piracy issues on alternative solutions and optimizing scarce resources. It also left the implementing units sufficient room for maneuver, which created significant ownership of the project. Supervision was constrained by a smaller budget than normal for a regional project due to the single financing source; however, the task team remained flexible and drew on regional Bank offices to provide support on the fiduciary aspects. The skills mix was limited for a regional fisheries research and coordination project due to budget constraints, but, most importantly, fisheries guidance and expertise was provided through the Task Team Leader. Bank management provided timely guidance and support with resources as

needed. Additional assistance would have been useful from an M&E specialist, particularly at the MTR for the revisions of the results framework.

# (c) Justification of Rating for Overall Bank Performance

# **Rating: Moderately Satisfactory.**

78. Overall, the Bank's assistance was moderately satisfactory. The Bank team ensured adequate quality at entry to ensure that the Project met GEF objectives and countries' needs, combined with an appropriate level of support necessary for encouraging country leadership during preparation and also maintaining the high level of country ownership throughout implementation. However, administrative oversight errors affected the pace of implementation in the beginning of the Project.

## 5.2 Borrower

## (a) Government Performance

## **Rating: Moderately Satisfactory.**

79. Overall, the performance of the Governments of the SWIO countries in preparing and implementing the Project was exemplary. There was high ownership in designing a difficult regional mix of fisheries research and management applications with the Bank, with an appropriate sequencing of activities, and coordination with other regional projects (ASCLME). Counterpart funding commitments were honored to the full; the governments made available to the Project its national staff to actively participate in Project activities, ensured adequate representation at SWIOFC session meetings, and demonstrated willingness to adopt difficult measures outlined in fisheries management plans and the SAP.

80. The Government of Kenya's performance, as the recipient of the Grant, was moderately satisfactory. It initially delayed the closing of the Treasury account in Kenya, opened in error for depositing project funds. This caused disruptions in the disbursement of funds early in implementation. The Government's response time towards the latter half of Project implementation improved and remained timely. Delays in signing the Project Agreement by the Government of South Africa was due to the timing of the required Parliamentary approval of the Memorandum of Understanding for transboundary research, extended the date of effectiveness by about six months.

## (b) Implementing Agency or Agencies Performance

## Rating: Moderately Satisfactory.

81. The pace of implementation early on in the Project was slow; the RMU was understaffed and procurement challenges hampered disbursements, efforts were concentrated on sorting out logistics issues, collaboration arrangements, and clarifying roles and responsibilities for various parties in a challenging regional context. Implementation accelerated once the RMU was fully staffed and, following MTR adjustments, activities and outputs increased considerably. Although procurement was slow, compliance with Bank procedures was satisfactory and the quality of documentation was good. The RMU within KMFRI demonstrated consistently good management of a complex Project

and maintained regional coordination and collaboration necessary to produce the key outputs for the Project.

## (c) Justification of Rating for Overall Borrower Performance

## **Rating: Moderately Satisfactory.**

82. The rating reflects the high level of involvement and ownership of the Governments and the efficient management of the RMU within KMFRI in obtaining Project results in the context of a complex regional project requiring intense collaboration and management efforts. However, the SAPs were not yet adopted by all countries by EOP although the process is ongoing following Project closure and deficiencies and delays experienced by the Implementing Agency contributed to delays in startup.

# 6. Lessons Learned

- (a) In a regional project with high potential for political priorities to dominate a project, the point of entry for collaboration was built first on technical cooperation (trust building and collaboration on research front), which then facilitated political collaboration across countries (regional collaboration and counterpart contribution to project, support to the RPSC and SWIOFC), leading to economic approach and discussions (follow-up phase SWIOFish).
- (b) The country ownership of the SWIOFP was a result of a long preparation process necessary for confidence building as participating countries took the lead in designing the project. The Bank's approach was to take a step back and provide guidance only when it was needed. Although the preparation from 2003-2007 was much longer than most operations at that time, the project was a complex regional operation and obtaining country ownership played an important role in the Project's results.
- (c) Political commitment throughout preparation and implementation was essential to maintaining the momentum of the operation, not only at national level but also at the regional level for coordination and oversight (SWIOFC and the RPSC). This contributed to the successful performance of the RPSC and SWIOFC and lent credibility to the TDA and SAP processes.
- (d) In a project which is heavily output-based, evaluating capacity building aspects is an important means of assessing outcomes and impact. In the SWIOFP, this happened through the strengthening of national and regional institutions, and through the global benefits generated by the project's baseline data and research activities which can be shared between the countries and outside the region.
- (e) By signing one Grant Agreement with Kenya on behalf of all the beneficiary countries, instead of a Grant Agreement per beneficiary country, the project managed to pool financial resources among them. This allowed for a greater efficiency in the utilization of the funds, and avoided the situation where resources would be lost due to absorption capacity limitation of some countries.
- (f) Delays in signing by one country delayed the effectiveness date for other countries. The Bank could explore ways to delink the cross-conditionality in regional operations involving multiple
countries by allowing separate dates of effectiveness when multiple project agreements are involved.

- (g) Use of country systems is meant to provide a standard procurement process for projects but in reality places additional burdens on implementation agencies and requires more coordination, procurement experience, and time, to implement successfully.
- (h) M&E indicators need to be clearly stated and focused on impact, with outputs and targets indicative of outcomes to be achieved; in the case of the Project, difficulties were experienced with the results framework because the intermediate indicators were lost in unnecessary detail and there was confusion between the GEO indicators (outcome-based) and poorly stated PDO indicators (output-based) before they were revised and merged into outcome-based GEO indicators more appropriate for the Project.
- (i) Relations with the client countries were facilitated with the selection of the right skills mix (trilingual task manager and fisheries specialist) and the use of translation services for meetings and implementation aide memoires.
- (j) Successful project experiences need to be shared with other projects, especially with regional operations and similar projects in the GEF portfolio. This supports cross-learning, sharing of experience, and application of lessons learnt.
- (k) As the project activities move into a follow-up phase, sustainability issues to consider will be quality and verification of data, sustaining operation and maintenance costs of the knowledge and data bases, staff turnover, financing of high cost operations such as the surveys and observer activities, and support to the regional bodies for the longer terms.

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

# (a) Borrower/implementing agencies

N/A

# (b) Cofinanciers

N/A

(c) Other partners and stakeholders

(e.g. NGOs/private sector/civil society)

N/A

# Annex 1. Project Costs and Financing

# (a) Project Cost by Component (in US\$ Million equivalent)

Project Cost By Component and/or Activity	Appraisal Estima (US\$ million)	Actual/Latest Estimate (US\$ million)	Percentage of Appraisal (%
1. Data Gap Analysis, Data Archiving and			
Information Technology	3.26	2.51	77
2. Assessment and Sustainable Utilization of			
Crustaceans	3.62	3.31	91
3. Assessment and Sustainable Utilization of			
Demersal Fish	4.56	2.79	61
4. Assessment and Sustainable Utilization of			
Pelagic Fish	5.75	3.60	63
5. Mainstreaming Biodiversity in National and	0.01	4 = 0	101
Regional Fisheries Management	0.91	1.79	196
6. Strengthening Regional and National Fisheries		Control on the second	
Management	4.32	8.09	187
Total Baseline Cost	22.42	22.08	98
Physical Contingencies	0.07	0	
Price Contingencies	0.16	0	
Total Project Costs <sup>2</sup>	22.65	22.08	97
Total GEF Financing Required	12.00		

#### (b) Financing

Source of Funds	Type of Cofinancing	Appraisal Estimate (US\$ M)	Actual/Latest Estimate (US\$ M)	% of Appraisal
UN Food and Agriculture Organization (FAO) (through the SWIOFC) $\underline{1/}$	Parallel	0.70	0.94	135
Fonds Français pour l'Environnement Mondial (FFEM)	Parallel	1.00	1.06	106
Global Environment Facility (GEF) 2/	Grant	12.00	11.94	99
Norway: Ministry of Foreign Affairs (through FAO) <u>3/</u>	Parallel	2.27	1.49	66
Local Sources of Financing (country contributions)	Counterpart	6.68	6.64	99
TOTAL		22.65	21.11	97

 $\underline{1}$ / FAO contribution: financing of SWIOFC personnel.

<u>2/</u> Does not include GEF Preparation Grants totaling \$725,000 for: PDF-A (\$25,000); PDF -B/PPGs: TF050820 (\$350,000) and TF054267 (\$350,000).

3/ EAF-Nansen project contribution: cofinancing of the *R/V Dr. Fridtjof Nansen* (\$1.14 million); and additional contribution for fisheries management plans development (working groups, training) estimated at \$350,000.

#### **Counterpart Commitments:**

Counterpart Funding by Country	Total Actual (US\$'000)
Comoros	18
Kenya	4,655
Madagascar	104
Mauritius	868
Mozambique	175
Seychelles	34
South Africa	623
Tanzania	164
TOTAL	6,644

#### Additional partnership contributions not anticipated at appraisal:

#### 1. French Research Institutes (IRD, IFREMER): (Total \$1.71 million)

- Mobilization of French researchers staff time and ships/vessel time: estimated at around \$971,000.
- IRD-financed experts and use of IRD research vessels estimated for years: 2009 (\$490,000); 2010 (\$57,000); 2011 (\$194,000); Total (\$741,000).

# 2. Indian Ocean Tuna Commission (IOTC) and Indian Ocean Commission (IOC):

- Joint coordination of training with SWIOFP for observers, participation in SWIOFC and SWIOFP technical meetings. Costs estimates not available.

# 3. WWF Tanzania:

- Joint organization of IOTC meeting (2011), and participation in SWIOFP and SWIOFC meetings estimated at around \$25,000.
- Consultancy harmonization of legislation and RBM (2011) estimated at around \$27,500.

# **Other Grants linked to the Project:**

- JSDF Community-based Coastal Resources Mgt. and Sustainable Livelihoods Project (Mozambique): \$1,853,000.
- JSDF Coastal Resources Co-management for Sustainable Livelihood Project in Comoros (P125301): \$2,729,400.
- TFESSD Climate Change and Coral Reef Management Study in the South West Indian Ocean: \$180,000.
- TF WIOFish database: \$200,000.
- JSDF Tsunami impact in Seychelles purchase of equipment for marine ecosystem assessment: \$338,000.
- DGF Support to Right-Based Management: \$1.1 million.

# Annex 2. Outputs by Component

1. Implementation was slow to get started, particularly for Components 2-5, due to the following factors: (a) the late recruitment of the Ships Logistics Coordinator (SLC) (recruited in November 2010, 2.5 years after effectiveness); (b) slow procurement and disbursements; (c) increasing incidences of piracy from mid-2009 which impeded ship-based surveys; (c) shortage of appropriate vessels and/or gear in some cases; (d) lack of capacity (trained personnel, experience) to implement the observer deployment program.

The description of outputs begins below with a summary of factors affecting cross-cutting activities, followed by assessments of each component's outputs.

#### **Cross-cutting Activities**

#### Survey Activities (Components 2-4)

Surveys at sea were conducted following national and regional data gap analyses and were 2. carried out, when feasible, jointly with the sister project, the ASCLME, cofinanced between the UNDP, World Bank, FFEM and FAO depending on which component activity each donor agency financed. The at-sea data collection would be obtained through scientific surveys using project or research vessels such as the Dr. Fridtjof Nansen, an oceanographic data collection cruise vessel in support of the ASCLME, cofunded by Norway<sup>16</sup>, or through deployment of observers on commercial vessels. Piracy disrupted the possibility of using fully the Dr. Fridtjof Nansen when, in July 2009, the FAO and Norway stipulated that the vessel could not enter the northern parts of the project area. Consequently, the research cruises took place only in the southern parts. Late in 2010, the vessel could only be used on the Mascareigne Plateau and not in the North-western project area. One of the planned activities for Year 2 of implementation (2009), for example, was a joint cruise between three projects (ASCLME/ SWIOFP/EAF-Nansen) in the waters of Tanzania and Kenya which could not be carried out and substitute vessels had to be found. Survey activities could not begin again until 2011, leaving about two years for implementation of the program. By EOP results were 80 percent of the planned surveys completed despite the impediments of piracy, weather conditions (monsoons), and fish behavior which limited the usefulness of data collected. Reports from cruises, however, were delayed in being submitted which limited their input to management plans. Some cruises were reported in the Recipient ICR as not being regional in nature (e.g., Tanzania) but were used wet-leased vessels which increased costs without added benefits.

3. Survey activities funded by SWIOFP for Components 2, 3 and 4 are summarized in the table below, with a breakdown by component in later sections of the Annex:

<sup>&</sup>lt;sup>16</sup> At appraisal, it was estimated that Norway co-financing would provide the *Research Vessel Dr. Fridtjof Nansen* for SWIOFP survey activities, of which the Project would pay 50 percent of the daily rate and Norway pays the other 50 percent. This represented significant savings, halving of initial cost estimates for such cruises. In July 2009, 52 days of survey was planned at a cost of \$520,000 total or \$10,000/day.

Component	Planned	Completed	% Completed
2 – Crustaceans	12	11	92
3 – Demersal	11	11	100
4 – Pelagic	19	9	47
Total	42	31	80

Source: SWIOFP RMU, February 2013.

4. Another approach used to obtain survey data included sharing survey cruises organized for one component to obtain data for other components; at times surveys scheduled for ASCLME project, or financed by the FFEM were used to obtain or share data with the SWIOFP. This cost-efficient arrangement increased the number of surveys in total conducted to obtain data as follows:

Component	SWIOFP specific	Shared surveys	Total surveys
	surveys	(incl. SWIOFP)	completed
2 - Crustaceans	11	14	15
3 – Demersal	11	22	28
4 – Pelagic	9	9	21
Total	31	45	64

#### **Deployment of Observers (Components 2-5)**

5. Deployment of observers on leased vessels was one of the means of collecting data and could be either at sea on board of leased vessels or at landing sites. The Project's objective was to build capacity nationally for countries to have their own Observer Programs and in support of this objective, the Project provided training and funded deployments with regional cruises or international experts to foster transfer of experience and knowledge.

6. At project start up, four countries had National Fisheries Observer Programs (NFOP) in place and in operation – France, Mozambique, Madagascar, and South Africa. Among the other countries, Kenya, Mauritius, Seychelles, and Tanzania had some experience with deploying scientists for data collection on board vessels, while Comoros had no experience. By EOP, Kenya and Tanzania were also implementing an NFOP, and Mauritius and Seychelles were initiating their programs. In absence of an industrial or semi-industrial fleet Comoros had started port sampling.

7. Overall, deployment of observers was less successful than the survey cruises. Implementation experience demonstrated that observers were more easily deployed from countries which already had NFOPs in place before the Project began. The other countries were gaining experience along with a learning curve for organization, logistics and skills shortages. In addition, implementing national observer activities required a substantial investment and commitment from countries in terms of establishing mandates and recruitment or availability of staff to coordinate and implement the program, which countries which did not already have a program in place were not able to make. In addition, overlapping donor projects and programs would work in each country, often with the same objectives, using the same personnel, and trying to work with the same NFOP added to the fray. Such efforts are at times uncoordinated, use different data collection tools and techniques but in the same country. There is a great need to standardize the tools used for data collection and training methods and avoid the duplication of efforts for countries. The observer

deployments were also delayed by the slow procurement at the regional level which affected the delivery of observer materials and tools.

8. The SWIOFP observer deployment strategy respected national norms and procedures regarding salaries to civil servants which varied from one country to the next. For countries which did not have an observer platform, the Project support the development of a platform through the development and harmonization of MoUs, work guidelines, observer protocols, observer data forms and development of an observer data base. These were developed with the RMU's Ships Logistics Coordinator (SLC).

9. Training for observers was completed in 2010. The recipient ICR reported that training was provided at considerable cost to the Project but that by EOP there was no clear regional strategy in place to use the trained observers. It is expected that such training would be useful in future programs as it is a requirement in the EAF approach to fisheries management and is included in fisheries management plans.

10. The Project financed standard observer training for 45 observers from five countries through the Oceanic Research Institute (ORI) of South Africa, and the purchase of data collection tools and equipment in support of the development of NFOP. However, the basic support needs to be fostered through national or regional workshops for transfer of knowledge from the more experienced and mature NFOPs to countries which only begun to develop these programs. The national capacities exist but needs to be developed further through shared experiences.

11. Other challenges to the program included piracy, the absence of ports of call for industrial fleets, data collection methods which vary from one country to the next, new formats for data collection which had to be accommodated as a result of the Project, new data which had to be collected, training needs, briefing needs.

Country	Days Allocate	Days Used	% of Days Used
Comoros	0	$125^{1}$	n/a
Kenya	175	50	29
Madagascar	920	963	105
Mauritius	625	0	0
Mozambique	499	566	113
Seychelles	410	0	0
South Africa	56	56	100
Tanzania	100	235	235
% Deployment	2,785	1,995	72

12. Observer deployment activities by country, as of February 2013 are as follows.

<sup>1</sup> Port sampling.

# Piracy

13. Piracy originating in Somalia increased in 2009. As a result, several research cruises were cancelled, and the observers could not be deployed; some fisheries in the surrounding areas stopped

altogether. When piracy disrupted the possibility of using the research vessel, *Dr. Fridtjof Nansen* package i.e., scientist crew including chief scientist and local staff which was important for transfer of knowledge, for surveys, the Project adjusted by restructuring the survey program, i.e., determine how many surveys could be carried out with commercial fishing vessels and local staff. However, the challenges encountered with this option included screening data for quality and data collection techniques which varied by country. Commercial fishing vessels were used because of the prohibition placed by some countries (South Africa, Nansen – Norway, France) on their nationals navigating into pirate threatened waters. Countries subsidized surveys by providing armed guards on commercial fishing vessels but only Kenya had an organized anti-piracy policy, providing sea and air protection to SWIOFP surveys implemented in Kenya EEZ, with armed guards on wet-leased vessels if required.

# TDA and SAP (Components 1 to 6)

14. **The preparation of the TDA and SAP** were key outputs for the Project. The data and knowledge gap analyses on targeted species and fisheries (including biodiversity impact) which were conducted at the national levels and consolidated into a regional level gap analysis, reflected country needs, determined preliminary selection of priority species, outlined related key issues, and proposed a framework for a research plan. The research plan drove the data collection and research agenda to fill data and knowledge gaps; these were carried out through ship-based surveys, observer activities, and various research topics (and publications), supplemented by cost-effective sponsorship of higher education grants. The grants provided a lower cost means of supplementing the research as student grants for Bachelor of Science (BSc) degrees or higher, researched various topics relevant to the Project, and also provided a means to fill a skills gap in the sector.

15. The retrospective analyses reviewed the quality and adequacy of the data and information inventory, by species/theme, to assess the state of priority species in the region. The gap analyses, together with the retrospective analyses provided input into the preparation of the TDA, following which the SAP would map out the program of country-driven reforms and investments countries would commit towards managing the LME resources.

16. The above analyses provided a broad overview of the state of fisheries in the SWIO area as it prepared to apply an ecosystem approach to fisheries management. In summary, the main concerns were the changes in population balance of the following species: sharks and rays, large and small pelagic fish, reef and demersal fish, sea cucumbers, prawns and shrimps, lobsters, and non-target species (crustaceans, marine mammals and seabirds)<sup>17</sup>.

17. The Project supported capacity building and the Project's research agenda through grants for graduate and post graduate degrees, and publications of scientific books and articles as well as unpublished scientific and technical reports, theses, and newsletters, to raise awareness and increase the visibility of the Project.

<sup>&</sup>lt;sup>17</sup> "Results and Achievements from the SWIOFP", SWIOFP RMU, February 2013.

#### Impact

18. SWIOFP activities carried out / undertook a regional fish stock assessment and fishing pressure surveys; developed a preliminary level of harmonization of regulation and management cooperation; fostered regional cooperation between fisheries research and fisheries management scientists, and strengthened the capacity of Government agencies involved.

## **Outputs by Component**

#### Component 1: Data Gap Analysis, Data Archiving and Information Technology.

19. The objective of the component, to establish a regional database and appropriate data management systems which would allow access to national datasets across the region, has been achieved.

20. Data from national and international sources have been downloaded into seven regional databases piloted under SWIOFP. The databases reflect information obtained from several completed activities: data atlas, gap analyses, and retrospective analyses for the key fisheries of SWIOFP. Databases are now accessible to participating countries and linked with data from previous LME projects such as ASCLME and WIO-Lab Projects.

21. This component was coordinated by Kenya. The regional database was to be housed in Kenya at the RMU, with the objective of creating a regional center for fisheries research data. Previously, national data sets were scattered in various locations in each country and ran an increased risk of becoming lost over time.

22. Data collection proceeded slowly during the first two years of project implementation due to several factors, mentioned earlier in the ICR. These factors affected the pace of implementation across the components. Provision and populating the data was the responsibility of the National Management Units (NMU). The first year of implementation was focused on training and workshop activities to develop a plan for capturing, processing and disseminating data, initiating a data gap analysis, and selection of an efficient data management system. National databases were to be consolidated and integrated into the *StatBase*<sup>18</sup> system. Training on metadata management and several sequential training workshops on *StatBase* were held with the *Institut de Recherche pour le Développement* (IRD) <sup>19</sup> between November 2008 and August 2010 on such topics as inventory of datasets, harmonization of data across countries, data integration and consolidation, in preparation for establishing the data collection and management requirements. The workshops also identified the current status of fisheries data sets and constraints encountered (highly variable time series, missing catch data, uncertain status of length measurements, some species breakdown missing).

<sup>&</sup>lt;sup>18</sup> *StatBase* is an archival software system for fisheries statistics developed in West Africa. This was to facilitate archiving of existing data, and development of the data gap analysis.

<sup>&</sup>lt;sup>19</sup> The French development research institute, IRD, is one of the sponsors the *Indiseas* Program, a scientific program which evaluates the effects of fishing on the health status of marine ecosystems. A joint workshop was held with the SWIOFP on Ecological Indicators in January 2010.

23. A regional **data atlas**, reflecting repatriated and consolidated data from various sources, was developed under an electronic format through *Statbase*; the related cartographic module was completed in September 2012.

24. **Regional data gap analyses** were completed in late 2009 for the three main types of consumptive species/fisheries specified for Components 2 to 4 (crustaceans, demersal and pelagic fishes) across the SWIOFP region, and for non-consumptive species specified for Component 5 (mainstreaming biodiversity in national and regional fisheries management).

25. National level gap analyses conducted in each SWIOFP country and combined into a regional analysis, following which a regional workshop would be held to harmonize the selection of priority species, identify key issues and data needs, and make recommendations for appropriate research projects to address the countries' data needs/gaps.

26. At the Mid-Term Review (MTR) carried out in March 2011, the piloted databases were only partially populated. However, they were expanding to include data on artisanal fisheries (needed for the ASCLME project which was responsible for this subsector) and various data required under the SWIOFP from research cruises which were beginning to come in. Other delays included the repatriation of historical data and the procurement of the *Endnote* software for cataloguing bibliography as well as the recruitment of the consultants responsible for capturing and processing such data. This in turn delayed the downloading of data into the Western Indian Ocean Fisheries Database (WIOFISH), a software for tracking small-scale fisheries inventory under the Project.

27. By EOP, *Endnote* has been implemented. A copy of the Endnote database has been sent to all participating countries. The *Geonetwork* node created for metadata cataloguing all SWIOFP data was ongoing.

28. **Regional retrospective analyses** were used in conjunction with ship-based surveys to identify and collate available information on the target fisheries and also to meet the requirements specified in Component 5 for mainstreaming biodiversity in fisheries management.

29. Relevant databases were expanded and new fields added to accommodate new data collected from research cruises, project-leased vessels, and commercial vessels with observers on board. Cruise data was captured in the *Nansis* software used for facilitating cruise data management for active fishing gear.

30. Fisheries-related IT and communications infrastructure have been supplied to member countries; all NMUs are equipped with IT equipment, communications and data handling equipment. However, improvements to the SWIOFP-KMFRI infrastructure network were still outstanding in late 2012 due to procurement delays going back to November 2011.

31. Although component activities were implemented with delay, the databases were largely populated with new and historical data by end of Project (EOP). Eight fisheries and environmental indicators were also defined. Participating countries were able to take stock of all research cruises carried out in the region as well as identifying 30 datasets of which eight were of high priority for the SWIOFP. Historical information from over 150 cruises, carried out by numerous countries in the Western Indian Ocean between 1933 and 2011, has also been captured into the databases. The data collection activities also enabled the countries to identify important missing survey data which were

carried out by the USSR, Germany, France, the United Kingdom, and Norway which were of high priority to the Project but were difficult to locate or "rescue". However, the cost of "rescuing" this missing data was estimated to be costly and take two to three years beyond the closing date of the Project closing date to complete (particularly for the USSR data set which needed to be transferred from paper for electronic format). For other data, reports were collected.

32. The component was also cofinanced by France whose contribution covered:

- Setting up a working group on fisheries indicators in an ecosystem perspective, first workshop organized during Year 2 in conjunction with the EAF-Nansen project;
- Consolidation and integration of national databases into *StatBase*;
- Implementation of the web-based version of *StatBase* and the related support website;
- Contribution to the development of a fisheries atlas, accessible online.
- 33. France was responsible for developing the online fisheries atlas which has been completed.
- 34. Below are the regional databases piloted under the Project:

Database	Type of database	Status at EOP
StatBase	Regional Fisheries Database -	Established as the Regional Fisheries
	populated with data on fishing effort,	Database. Contains data on 25 out of 27
	catch and register. StatBase2 was	fisheries (100%). Database transfer
	developed by the French Institut de	from IRD to RMU server is 100%
	Recherche pour le Développement	complete.
	(IRD) for the analysis of statistical	
	fisheries data and adapted for	
	SWIOFP.	
WIOFISH	Small-scale fisheries of the WIO;	Annotated inventory of 254 fisheries
	provides holistic descriptions of the	from the region. Expanded as a result
	fisheries including attributes such as	of SWIOFP. Now covers 8 countries
	catch composition, vessels and gear	of the SWIO. Workshops held
	used, habitats within which the	annually to maintain/update data.
	fisheries operate, management	
	strategies and socio-economics.	
Nansis	Cruise data management.	24 historical data sets captured from
		Dr. Fridtjof Nansen cruises in the
		ASCLME. Data capture is complete
		for Tanzania and partially complete for
		Kenya wet lease vessels.

		-
GeoNetwork	Facilitates metadata cataloguing.	<i>GeoNetwork,</i> which is a "Geographic Metadata Catalogue", is being used by SWIOFP for metadata cataloging all its data. Measures to ensure a good linkage with the IOC UNESCO "Ocean data and information network for Africa Project" met with mixed success.
Endnote	Scientific reference and bibliography database.	Mostly completed for 8 countries, of which 3 have included electronic copies of most documents (see table below), with Comoros entirely completed. In 2012, contained 4,626 references, 47.5% have documents attached. Includes bibliography of published literature, internal and survey reports.
Indiseas Program	Scientific program which evaluates the effects of fishing on the health status of marine ecosystems. Provides a panel of indicators characterizing the ecological status of exploited resources, their environment, and the human dimension of fisheries. Selects indices to address: Biodiversity conservation, ecosystem stability and resistance to perturbations, ecosystem structure and functioning, and resource potential.	Data collected under SWIOFP's selected trawl surveys were inputed into the Indiseas program and website. Countries active in Indiseas currently are: Kenya (Malindi-Ungwana Bay), Madagascar (Bay of Ambaro), Mozambique (shelf edge for deep water crustaceans), Tanzania (Rufiji-Mafia Channel ecosystem).
Pasgear	Dropline survey data. <i>Pasgear 2</i> is a customized data base package used mainly for experimental/artisanal fishery data and allows for fast data storage and analysis from various survey designs.	Training on operation of <i>Pasgear</i> was conducted towards the end of the Project, and countries are encouraged to use the software for analysis and archiving of data.
Observer Database	Data from observer deployments.	Observer data base developed and ready to be used to support the National Observer Programs and regional data collection in cooperation with regional organizations (IOTC, IOC).

*Endnote* records by country<sup>20</sup>:

Country	# of Records entered	% with scanned document
Kenya	1,550	90
South Africa	363	22
Comoros	33	100
Mozambique	1,033	11
Madagascar	240	91
Tanzania	276	45
Mauritius	77	1
Seychelles	1,055	0
France	0	0

Under this component, the Project also financed the following higher education programs in support of research projects:

Country	Project	University	Degree
Mozambique	Create web-based information for statistical	Sao Thomas	MSc
	analysis and data management of fishery data in	University	
	Mozambique		
Kenya	Effectiveness of web portals in improving fisheries	Kenya	BSc
		Methodist	
Kenya	Fisheries Statistics Information System –	Moi University	BSc
	improving web-based interfaces		

Source: SWIOFP, RMU, February 2013.

# 35. The following issues were underlined during implementation:

- Irregular updating: the data base management system was dependent on member countries submitting data on time;
- Data quality remains an issue which has not been clearly addressed in Project reporting; FAO was mentioned as having this responsibility;
- Not all databases have been fully uploaded because countries have yet to input information; and
- The Retrospective analysis carried out in 2012 showed that the *StatBase* was incomplete compared to the statistics databases of WIOFISH and FAO.

# Impact

36. At appraisal, nearly all the participating countries lacked sufficient data to describe the state of fisheries and the anthropogenic pressure on fish stocks. Knowledge of the impact of

<sup>&</sup>lt;sup>20</sup> Annual Report – The South West Indian Ocean Fisheries Project (SWIOFP), SWIOFP Regional Management Unit, 2012.

environmental fluctuations on fish stocks and ecosystems were weak, and data on ecosystems indicators in specific areas (biological characteristics, fishing pressure, fish stocks, effects of land-based sources of pollution, and linkages between ecosystems) were incomplete.

37. Under this component, the SWIOFP was able to support the first-ever stock assessment of the two LMEs in the region. New and historical data are being captured and data gaps identified and data is being shared through several regional databases. The main fisheries database (*StatBase*) is hosted at a centralized location in Kenya (the RMU's server) having been transferred from an outside research institution (IRD). Although improvements are still needed in certain areas of data collection and analysis, activities funded under this component have assisted member countries to increase their knowledge base in fisheries data collection and management, fisheries research and analysis.

# **Component 2:** Assessment and Sustainable Utilization of Crustaceans

38. The objective of this component, to support the assessment stock dynamics of shallow and deep water crustaceans and their fisheries, has been achieved. The intermediate outcome indicators have been met through the following key outputs, and provide the basis for the baseline and impact assessments of crustaceans in the selected countries:

- (a) A regional gap analysis has been completed;
- (b) Three planned retrospective analyses completed (March 2012) for deep-water trawl, deepwater trapping, and shallow-water trawl fisheries for crustaceans;
- (c) Ship-based surveys carried out to assess the potential of new and existing; data collected on species composition, distribution, biological and environmental data collection and disseminated; survey data harmonized and analyzed within a regional context;
- (d) Four research themes for priority species identified; related research projects completed through Masters of Science (MSc) degrees;
- (e) Harmonization workshops and meetings were held at country and at regional level to solicit endorsement of findings.

This component was coordinated by South Africa.

39. Data collection data of species composition and distribution, biological and environmental information, was carried out through ship-based surveys, using project or leased commercial vessels. Some ship surveys were shared with the ASCLME project and integrated all components (1 through 5). Of the 15 surveys completed, SWIOFP funded 13 surveys, of which 11 (see table below) related specifically to Component 2.

Country	Month/Year	Duration (days)	Survey Type	Target Group	Status at EOP
Kenya	Jan 2011	15	Shallow trawl	Penaeid prawns	Completed
Kenya	May 2011	15	Shallow trawl	Penaeid prawns	Completed
Tanzania	Feb 2011	15	Shallow trawl	Penaeid prawns	Completed
Tanzania	Feb 2011	15	Shallow trawl	Penaeid prawns	Completed
Kenya	Feb/Mar 2011	20	Deep trawl	Prawn,	Completed
				Langoustine	
Tanzania	Jan/Feb 2012	20	Deep trawl	Prawn,	Completed
				Langoustine	
Mozambique	Oct/Nov 2011	25	Deep trawl	Prawn,	Completed
				Langoustine	112
Madagascar	Nov/Dec 2011	25	Deep trawl	Prawn,	Completed
				Langoustine	
Madagascar	Mar-Sep 2012	35	Deep trap	Lobster	Cancelled
Mozambique	Mar-Sep 2012	25	Deep trap	Lobster, Crab	Completed
Kenya	Mar-Sep 2012	15	Deep trap	Crab, Lobster	Completed
Tanzania	Mar-Sep 2012	15	Deep trap	Crab, Lobster	Completed

#### SWIOFP-financed Ship-based Surveys using Wet-leased Fishing Vessels

Source: SWIOFP, SLC, Regional Management Unit, February 25, 2013.

40. The **regional gap analysis** for crustaceans was completed in 2009. A **regional workshop** was held at the Oceanographic Research Institute (ORI) on 20th – 22nd April 2009, attended by the National Component Coordinators from the participating countries, to combine the five national gap analyses into one integrated regional analysis. The gap analysis provided the basis for the ship surveys and data collection to be carried out and outlines the research agenda.

41. Findings from the regional gap analysis for Component 2 revealed:

- Substantial existing data on the priority species;
- The existence of common priority species but few industrialized fisheries;
- Questionable existence of local or shared stocks;
- Lack of knowledge/information on the biology and distribution of priority species;
- Management plans exist only at the national levels and were either weak or arbitrary; and
- Weak scientific capacity.

42. The gap analysis also recommended a research plan on four themes for the priority species and fisheries:

• Shallow-water prawns (trawling) (4 projects on biology, distribution patterns and genetic connectivity);

- Deep-water prawns and langoustines (2 projects on biology, distribution patterns and genetic connectivity);
- Shallow-water lobsters) (1 project on genetic connectivity of lobsters in South Africa and Mozambique); and
- Deep-water lobsters and crabs (trapping) (3 projects on genetic connectivity of lobsters on SWIO seamounts, analysis of existing data).

43. The provision of education grants, mainly for Masters of Science (MSc), was one of the means used to address some of the key questions under the research plan. Most MSc research projects crossed national boundaries due to samples which had to be collected on ship surveys, some are planned to be expanded to regional scale. Topics such as the genetic population studies on transboundary connectivity were ongoing at EOP; Stellenbosch University in South Africa was conducting the genetic analyses. Relevant reports and publications are available on the Project website (www.swiofp.net). MSc projects supported by the Project are listed below:

Crustaceans		
Country	Project	University
Kenya	Shallow prawn genetics	Stellenbosch University
Kenya	Shallow prawn distribution	Moi University
Mozambique	Deep prawn/langoustine genetics	UKZN/ORI
South Africa	Deep prawn/langoustine biology	UKZN/ORI
South Africa	Shallow lobster genetics	UKZN/ORI
South Africa	Deep lobster genetics	Stellenbosch University

Source: SWIOFP, RMU, February 2013.

44. The three planned **retrospective analyses** on existing data for crustacean fisheries were completed in March 2012 and covered all the SWIOFP countries except Seychelles (although it was included in the PAD). The analyses were contracted to the Oceanographic Research Institute in Durban, South Africa and were carried out through consultation workshops held with the fisheries experts (government and private), fisheries institutes, and data specialists of member countries, inventory of literature and data systems, GIS mapping, and catch and by-catch data. The results of Component 2 activities provided a preliminary assessment of the potential for exploitation: (i) exploratory deep-water trawls suggest a limited potential for prawn and langoustine stocks off the coast of Kenya and Tanzania; (ii) a potential for small deep-water trawl fishery off the coast of Madagascar; (iii) trapping surveys for lobster and crab are sub-optimal; (iv) genetic analyses show panmictic shallow-water prawn populations in Malindi-Ungwana Bay; and (v) genetic analyses show structured populations of deep-water prawn and langoustines off the coast of Mozambique, Madagascar, and South Africa.

45. The key findings were that, although the information obtained to date from Project activities were a large step forward towards regional integration, important information gaps remain. The analyses provided a series of recommendations for future research and management strategies by country and by fishery and served as input into the TDA and SAP which was to be carried out jointly with the ASCLME project.

# Impact

46. The retrospective analyses provided a baseline for preparing the joint TDA and SAP with the ASCLME project. Survey data has been harmonized facilitating data sharing across the region and strengthening collaboration. The new research projects, combined with information sharing have strengthened networks among scientists/specialists in the region.

# **Component 3:** Assessment and Sustainable Utilization of Demersal Fish

47. The objective of this component, to support the assessment of the stock dynamics of demersal species and their fisheries, has been substantially achieved. The intermediate indicators are met through the following key outputs which provided input for the baseline assessment of demersal stocks and fisheries in the EEZs of Kenya, Tanzania, Mozambique, South Africa, Mauritius, Seychelles, Comoros and Madagascar:

- (a) Regional data gap analysis completed (December 2009);
- (b) Ship-based surveys and data collection activities completed;
- (c) Historical data compiled in Project databases; and
- (d) Retrospective analysis completed (December 2012);

This component was coordinated by Tanzania.

48. Implementation of the component activities were also slow to begin for the reasons outlined earlier. Little was accomplished apart from some cruises conducted by the Nansen in Mozambique and Madagascar waters in late 2009 and minimal baseline data was collected. Progress in implementation was also hampered by a change in the Regional Component Coordinator at this time.

49. By 2012, the retrospective analysis of demersal fisheries was completed. Shallow demersal trawl surveys for all countries were completed, except for Kenya, and some delay was experienced in the timely submission of cruise reports which limited their use as input into management plans. Deep-water demersal and acoustic surveys using droplines were conducted in Mauritius (15 days) and Madagascar (five days) while those planned for Mozambique, Kenya, and Tanzania took place later in 2012. Drop line cruises for Mauritius and Madagascar were delayed due to difficulties obtaining fishing gears. This in turn delayed the related training until May 2012. Acoustic dropline surveys were being implemented. A workshop on cruise data analysis was conducted in late 2012 to prepare the final cruise report. The pace improved during the last two years of implementation.

50. The **regional gap analysis** for this component was completed in December 2009. The analysis drew on available data and information sources for Comoros, Kenya, Madagascar, Mozambique, Tanzania, Seychelles, and South Africa. Prior to its preparation, a regional workshop was held at the Tanzanian Fisheries Research Institution (TAFIRI) in early June 2009, attended by NCCs for the component, to prepare the regional gap analysis which would combine eight national level gap analyses into an integrated report. The intent was to identify and agree on key demersal species and fisheries and recommend research projects to follow, but also served to screen issues such as quality of data, duplication of selections, etc., between countries.

51. The gap analysis resulted in the identification of 24 priority species in the region, for which a preliminary proposal was made for the development of projects and activities, and recommendations

for surveys and data collection. With the exception of small-scale fisheries, all the fisheries identified by workshop participants were of a semi-industrial or industrial nature and include: dropline, line-fishing, long-line, fish trawl, crustacean trawl, industrial trap and small-scale.

52. By EOP, most of the planned activities for ship-based surveys were completed, including for trawl surveys using wet-leased vessels and the *Dr. Fridtjof Nansen* research vessel, surveys for Tanzania and Kenya and regional data from the surveys which were analyzed and submitted for publication as an FAO special issue. One result of trawl surveys was that a decline in demersal fish catch rates was observed. Five dropline surveys were completed for Mauritius, Madagascar, Mozambique, Tanzania, and Kenya; technical reports submitted and data analysis completed. Results from dropline surveys and related data were analyzed at a regional workshop. Biomass estimation data were analyzed by an acoustic expert. Findings will also be published by FAO.

53. Observer activities for this component were land-based and carried out through commercial fishing boats. The results were as follows:

Country	Year	Survey Name	Status at EOP	Reporting Status
Comoros	Oct 2009	Survey of the Comoros Gyre	Completed	Completed
Kenya	Jun 2012	Demersal Fish Trawl (vessel wet-leased)	Completed	March 2013
Kenya	Sept 2012	Acoustic and Dropline	Completed	March 2013
Madagascar	July 2012	Acoustic and Dropline (vessel wet-leased)	Completed	March 2013
Madagascar	Aug 2009	West Madagascar Ecosystem Survey	Completed	Completed
Mauritius	Jun 2012	Acoustic and Dropline (vessel wet-leased)	Completed	March 2013
Mauritius	Dec 2010	Demersal Trawl Mauritius and S. Mascareignes	Completed	Completed
Mozambique	Aug 2009	Living Marine Resources of N. Mozambique	Completed	Completed
Mozambique	July 2012	Acoustic and Dropline	Completed	March 2013
Tanzania	2011	Acoustic Demersal Trawl	Completed	Completed
Tanzania	Sept 2012	Acoustic and Dropline	Completed	March 2013

# SWIOFP-financed Ship-based Surveys

Source: SWIOFP RMU, February 2013.

54. **Fish population genetics study**. Genetic samples for connectivity studies were collected for six countries and were analyzed at the University of Pretoria and at the Kenya International Livestock Institute.

55. In support of the proposed research agenda, grants to students in support of research efforts were mainly for MSc and covered the following topics:

# Demersals

Country	Project	University
South Afric	Genetic stock structure and potential changes in	Rhodes University,
	distribution of a commercially important Sparid	South Africa
	in the SWIO	
Kenya	Stock identification of the Javelin grunter on the	Moi University
	Kenyan coast using morphometric and meristic	
	characters	
Kenya	Genetic population structure of Crimson job fish in th	Moi University
	SWIO region. A case study of Kenya, Tanzania,	
	Madagascar, Seychelles and Comoros waters.	
Mauritius	Biology and ecology of the fished deep water	University of Mauritius
	snapper stocks of Mauritius – implications for	
	management	
Tanzania	MSc in Aquatic Science	University of Dar es
		Salaam

Source: SWIOFP, RMU, February 2013.

56. The **regional retrospective analysis** was completed in December 2012, drawing information and data from the same sources as for Component 1 and 2. The report identified the key issues and made recommendations on how they could be addressed and dealt with: ambiguous species differentiation and in fisheries classification, limited spatial differentiation in catch and fishing effort data, limited understanding of biology, population dynamics and status of priority species, likelihood of several species being shared or transboundary, and overexploitation of demersal species or few priority species are covered in national fisheries management plans although all the SWIOFP countries have planned or existing fisheries management plans. The results of the analysis were incorporated into the preparation of the TDA and SAP carried out jointly with the ASCLME project.

# Component 4: Assessment and Sustainable Utilization of Pelagic Fish.

57. The objective of this component, to assess the stock dynamics of large, small and mesopelagic species, and develop strategies to optimize small and large-scale pelagic fisheries, has been achieved.

58. Key outputs were produced but the short implementation time remaining limited the achievements. The main constraints involved the difficulty of wet leasing vessels for conducting cruises, the postponement or cancellation of cruises due to unavailability of suitable fishing vessels, and the limited success in the placement of FADs were constraints to data collection.

- 59. Key outputs under the component were:
- (a) Regional gap analysis completed;
- (b) Some ship-based surveys for data collection;
- (c) Deployment of Fish Aggregation Device (FAD) launched;
- (d) Study on the Socio-economic assessment of FAD impact completed; and
- (e) Regional retrospective analysis completed.

The component was coordinated by Seychelles.

60. Implementation for this component also experienced delays for the first two years. By 2011, research and deployment of FADs were underway in Comoros, Kenya, Madagascar, Mauritius, Seychelles, and Tanzania, including training and analysis of related data. A socioeconomic study (phase 1) was carried out to examine the impact of FADs on fishing communities. Five MSc degrees were funded.

61. Studies on the migration and movement of specific large pelagic species (including sharks) have been completed and were conducted with the deployment of pop-up satellite archival tags (PSAT) on swordfish and sharks. Eleven PSAT tagging cruises were planned, but five were cancelled. Fish which were tagged in 2011 off the coast of South Africa, Mozambique Channel, and off the Reunion islands were followed for 60 to 90 days. Results suggested the existence of a bounded home range for swordfish in the Mozambique Channel. Key information is now available to revisit stock delineation.

62. The *Dr. Fridtjof Nansen* research vessel has conducted mesopelagic cruises in Northern, Southern, and Western parts of Madagascar, in Northern Mozambique, and in the Comoros.

63. The **regional gap analysis** was completed in December 2009. A Regional workshop was held at the Seychelles Fishing Authority (SFA) in August 2009, with NCCs participating, to combine nine national gap analyses into integrated regional data gap analysis. The report compiled and assessed existing fisheries information, prioritized species, and outlined key issues to provide a baseline for planning project activities. Key findings on data availability and quality were similar to findings for Components 2 and 3. The regional gap-analysis also showed that a significant amount of data collection and research on large pelagic fishes had been carried out in the region, largely through French initiatives and under Indian Ocean Tuna Commission (IOTC) jurisdiction. A list of 81 pelagic fish species were selected, which included:

- For large pelagic fishes, four oceanic sharks, swordfish, bigeye tuna, skipjack tuna; it was expected that projects on these species may strengthen IOTC assessments;
- For medium-sized pelagic fishes included the small tunas and seerfishes, some gempylids, dolphin fish and cobia (important to fisheries in various sectors artisanal, sport, and industrial) and may be insufficiently covered by existing IOTC projects; and
- The small pelagic fish category covered small mackerels, scads and clupeids, most targeted by artisanal fishers.

64. Proposed projects for data collection included surveys for: acoustic, mid-water trawls, medium-sized tuna- and tuna-like species, instrumented long-line surveys, and development of FAD

fisheries. Data-collection would be carried through use of research vessels/ships, port sampling, and deployment of fisheries observes on board commercial vessels and/or through wet-leasing of commercial long-liners. Scientific capacity building to sustain and implement the activities successfully would include training, workshops of technical data handling content, development of an observer program, and support to post graduate degrees with related research agenda.

Country	Year	Survey Name	Status at EOP	Report Status
Comoros	Oct 2009	Survey of the Comoros Gyre	Completed	Completed
Comoros	n.a.	Comoros Large Pelagic Survey	Cancelled	n.a.
Kenya	n.a.	Acoustic & Midwater Pelagic	Cancelled	n.a.
		Trawl Survey		
Kenya	n.a.	Ken/Tanz Large Pelagic Survey	Cancelled	n.a.
Reunion (Fr.)	Feb 2011	Instrumental Longline Training	Completed	March 2013
		Survey		
Mayotte (Fr.)	n.a.	Comorow Archipelago Large	Cancelled	n.a.
		Pelagics Survey		
Mozambique	Aug 2009	Survey of the living marine	Completed	Completed
		resources of North Mozambique		
Madagascar	Aug 2009	West Madagascar Ecosystem	Completed	Completed
		Survey		
Mauritius	2010	Mauritius and S Mascarenes	Completed	Completed
		Ecosystem Survey		
Mauritius	n.a.	Sey./Maur. Large Pelagic Surve	Cancelled	n.a.
Mozambique	Nov 2008	Mesoscale Eddies and Large	Completed	Completed
Channel		Pelagic Fish Survey		
Seychelles	n.a.	Sey./Maur. Large Pelagic Surve	Cancelled	n.a.
Seychelles	n.a.	Seychelles Large Pelagics Surve	Cancelled	n.a.
South Africa	2010	Large Pelagics Survey	Completed	March 2013
South Africa	2010	SW Moz Channel Large pelagic	Completed	Completed
		Survey		
South Africa	Oct 2011	SW Moz. Channel Large pelagio	Completed	Completed
		Survey	-	
South Africa	n.a.	SW Moz. Channel Large pelagio	Cancelled	n.a.
		Survey		
Tanzania	n.a.	Acoustic and Midwater pelagic	Cancelled	n.a.
		Trawl Survey		
Tanzania	n.a.	Ken/Tanz. Large Pelagic Survey	Cancelled	n.a.

**Component 4: SWIOFP-financed Ship-based Surveys** 

Pelagics		
Country	Project	University
Kenya	An assessment of Kenyan Marine Fishery in	Rhodes University,
	light of FADs	S.A.
Kenya	Feeding behavior of large pelagics caught by	University of Nairobi
	sports fishing in the Kenyan waters	
Mauritius	Assessment of pelagic fishes around FADs	Rhodes University,
		South Africa
South Africa	Shark by-catch in pelagic long line fisheries	University of
		KwaZulu-Natal, S.A.
South Africa	The biology and fisheries of king mackerel in	University of
	the SWIO with reference to future	KwaZulu-Natal, South
	management initiatives	Africa
Tanzania	MSc in Aquatic Science	University of Dar es
		Salaam

65. Grants in support of capacity building were for MSc degrees supporting the research agenda:

66. **Optimization and development of FADs for large and small-scale pelagic fisheries.** FAD deployment and tagging around FADs met with limited success. Materials and equipment were acquired late in Project implementation, around June 2012 following a lengthy procurement process. Of the 17 FADs deployed to Kenya (4), Mozambique (2), Seychelles (4), Tanzania (2), Madagascar (2), Mauritius (1), and Comoros (2), many were lost or damaged by the local community fishers, probably due to insufficient sensitization prior to the FAD deployment. Consequently, training on FADs could not be completed as planned by the time the Project closed. Only Mauritius was able to complete both data collection and tagging.

67. FAD socio-economic assessments were carried out in all countries to ascertain the viability of using the devices region wide. The key findings are: (i) that the potential of large pelagic fish stocks appears to be sufficient to allow the implementation of FADs without risk of overexploiting resources (excluding juvenile capture); and (ii) FADs should be deployed within range of non-motorized canoes should a fleet exist (with the exception of Mauritius and Seychelles); (iii) provisions should be for the monitoring and maintenance of FADs within national budgets to ensure sustainability of FAD fisheries.

68. A regional **Retrospective Analysis** was completed in November 2012. It considered a large number species caught in the eight member countries and a multitude of fishing gear used.

69. France provided **cofinancing through FFEM** for the following activities in this component:

# (a) <u>FADs</u>:

n 1 ·

- a workshop on FAD deployment, research monitoring;
- first phase of a socio-economic survey for coastal pelagic fisheries prior to FAD deployment;
- FAD deployment with the assistance of French experts.

(b) Experimental longline surveys and Pop Archival Tagging (PAT):

- Regional workshop on experimental longline-related research;
- Development of software dedicated to longline data analysis and strategies;
- Operations at sea with commercial longliners, including one cruise in association with a research vessel R/V ANTEA in the Mozambique Channel, in conjunction with a WIOMSA-MASMA project and the ASCLME; and
- Progress review and assessment workshop at End of year.

# Component 5: Mainstreaming Biodiversity in National and Regional Fisheries Management.

70. The objective of this component, to assess the state of knowledge of non-consumptive resources and marine biodiversity for inclusion in the data atlas, has been substantially achieved. The component has met most of the outcome indicators revised following the MTR.

The component was coordinated by Mauritius.

71. Most key outputs were produced: a regional data gap analysis, data collection on biodiversity assessment of by-catch impacted by artisanal fisheries methods, regional retrospective analysis providing input for mapping biodiversity hotspots, sensitive zones and biodiversity reference sites.

72. Sixty-five biodiversity hotspots have been identified including turtle and seabird nesting sites, areas with high numbers of vulnerable species and fish aggregating and nursery areas. The hotspots have been related to known marine protected areas and fisheries. These outputs were taken into account in the preparation of the EAF strategies and for the joint TDA and SAP. The SAP proposed actions to address habitat and community modification, and declining living marine resources through: (a) monitoring, control and surveillance and enforcement techniques; (b) observer and compliance/control officer training; (c) by-catch (including seabirds) mitigation measures; (d) stock assessment training to develop harvest control regulations; and (e) safety training for fisheries (including diver training for sea cucumber harvesting). Fisheries management plans also include the biodiversity and social dimension in resource management.

73. Other outputs from the Component which have not been completed, however, are the GIS mapping of key marine species, and assessments of marine biodiversity as alternative sources of income.

74. The implementation of Component 5 was also slow to start, not only for the same reasons that affected the other components, but also because it was less well understood than the other components. The Recipient ICR mentioned that this was related to a lack of familiarity with the ecosystem and biodiversity issues under the Project, in addition to a confusion about how to use the budget allocated to the Component's activities. These issues were eventually resolved later in implementation.

75. Tagging experiments to monitor migration of turtles was contracted some of the work to Non-government organizations (NGO). The tags were deployed but the program was not developed after the MTR because of the relatively high cost of the exercise and no new tags were procured.

76. Steps taken to determine indicators for ecosystem health were carried out under the *Indiseas* Program (www.indiseas.org) and were completed for Tanzania and Madagascar, but delayed for Mozambique and Kenya.

77. The draft **regional data gap analysis** was completed in 2011. While the gap analyses for Components 2, 3, and 4 were based on fisheries resources and species, the analysis for this component is based on the main biodiversity issues affecting fisheries activities including:

- (a) Bycatch (fisheries with different gear types, non-target species, vulnerable species, discards vs. retained bycatch);
- (b) Habitat destruction through fishing (trawling grounds, fishing practices);
- (c) Ecosystem effects (trophic interactions, predator removal);
- (d) Sensitive areas (critical habitats, biodiversity "hotspots", aggregating sites, nurseries); and
- (e) EAF approaches.
- 78. No ship surveys were carried out under Component 5.
- 79. Grants for MSc degrees were the following:

Country	Project	University
Kenya	The status, nesting ecology and interaction	Moi
	with artisanal fisheries of sea turtles in Kenya	University
Kenya	An ecosystem-based fisheries assessment	Moi
	approach; a case study of the Malindi-	University
	Ungwana Bay prawn fishery, Kenya	
Kenya	Distribution, abundance and biological	Moi
	aspects of Elasmobranchs on the Kenyan	University
	coast	

#### **Biodiversity:**

80. The **retrospective analysis**, completed in 2012, reviewed knowledge of non-consumptive resources in the region including identification major biodiversity hotspots. The preparation of the bio-indicators of ecosystem health, however, was not completed for Mozambique and South Africa (benthic communities) as of end of 2012. Similarly, the interactions with fisheries (investigation on bycatch and bycatch reduction methods were also not completed.

81. The sixty five "biodiversity hotspots" identified included turtle and seabird nesting sites, areas with high numbers of vulnerable species, and fish aggregating and nursery areas, and were described in a study of the biodiversity of WIO under the Project. The hotspots relate to Marine Protected Areas (MPA) and fisheries activities and provide input for fisheries resource management planning (EAF strategy, etc.).

82. A rapid by-catch assessment of artisanal fisheries was completed in May 2012. The assessment flagged a number of concerns. At least 59 species were identified as bycatch or by-products species, including five species of sea turtles, eight species of marine mammals and 46 species of elasmobranchs. An ecological risk assessment revealed that at least 17 species (including five species of turtles, the dugong, three species of dolphin and eight species of elasmobranchs) were

vulnerable to artisanal fisheries. The assessment also identified the types of nets used by artisanal fishers which were more harmful that others (multifilament drift gillnets caught more species than monofilament drift gillnets, and posed a higher risk for dolphins, sea turtles and elasmobranchs) and which methods had the least impact. In particular, it underlined an urgent need for integrated regional management of large and mobile marine vertebrates across the LMEs, particularly since wide-ranging species interact with both coastal and artisanal and oceanic industrial fisheries. Training on rapid by-catch assessment was held in 2011.

#### 83. French **cofinancing** through FFEM supported:

- (a) Marine mammals: (i) regional workshop for identification of cetaceans and methodology for surveys; (ii) surveys at sea (with observers) and operations around cetacean hot spots; and
- (b) Marine turtles: (i) regional workshop on sea turtles (tagging methodology and monitoring); and (ii) start ARGOS surveys from Europa spawning site.

#### Impact

84. The results from the studies on biodiversity supported by the Project provided valuable input for decision-making on fisheries management and the future management plans using the EAF and other strategies. Unlike the situation at the beginning of implementation, the knowledge base has expanded and has led to an improved understanding of fisheries and its relationship to biodiversity.

#### **Component 6:** Strengthening Regional and National Fisheries Management.

85. The objective of this component, to support an emerging regional fisheries management framework in the SWIO and build capacity in regional and national fisheries management bodies, has been substantially achieved.

86. Relevant national and international legislation and other instruments relevant to the Project's objectives have been identified and areas of harmonization proposed to the SWIOFC. National and regional resource management structures are operational through the establishment of the NCCs, RCCs, the RMU, RPSC, and SWIOFC. The national structures are interacting with regional structures for information sharing, coordination and decision-making. The SWIOFC, the technical advisory body under the FAO, has been supported to become an effective forum for discussing and resolving fisheries management issues and actions for the Project; at EOP, a formal proposal was being considered to increase its role in the region to become a regulatory body. Support to the SWIOFC was a GEO Key Performance Indicator for the Project. The prospect for establishing a regional management structure is encouraging.

The project management aspects of this component were coordinated by Kenya.

#### 87. The key outputs were:

- (a) Establishment of a regional management unit and national project offices;
- (b) Establishment of National and Regional resource management structures;
- (c) Establishment of a functioning working relationship between the Project and the SWIOFC;
- (d) EAF Fisheries management plans prepared for nine countries;

- (e) Assessment of Governance and Policy in the region (includes the review of fisheries regulations of the SWIO countries); study completed with ASCLME; and
- (f) Joint TDA and SAP with ASCLME project (complements the WIO-Lab TDA and SAP).

88. Implementation under this component was delayed at start-up. The Regional Management Unit (RMU) was not fully staffed until November 2010 (2.5 years after effectiveness). Personnel included a Regional Executive Secretary (RES), a Finance Manager, an IT manager, a Ship Logistics Coordinator (SLC), and an administrative assistant. Until August 2009, the unit was minimally staffed with an interim RES and administrative assistant. This in turn delayed the implementation of all components until MTR (March 2011). The main constraint to the effective performance of the RMU was the slow procurement process. Overall, however, the RMU, and KMFRI, has been effective in coordinating with member countries the challenging requirements of a regional and complex operation.

#### Capacity strengthening for improved fisheries management planning.

89. *National and regional project offices* were established in the first year of implementation ready to implement Project activities and included nominations of the NCCs, RCCs, and the establishment of the RMU (although not fully-staffed). Participating countries were able to complete a substantial number of activities planned for the three phases of the Project:

- Phase 1- Data collection and analysis, and identification of data gaps; regional sharing of information facilitated (i.e., gap analyses, regional fisheries-related databases, training and coordination);
- Phase 2- Collection of new data and information, and establishment of baseline information on fish stocks, fishing pressure (surveys, observer deployments, research, retrospective analyses); and

Phase 3- Identification of regional issues to be addressed (joint TDA and SAP);

90. The RMU provided the overall coordination for project activities, fostered collaboration on Project activities, and supported strengthening of partnerships with important institutions in the sector across a complex regional operation. The logistics and coordination required was a daunting task involving nine countries, multiple programs, diverse interests of different institutions and donors, and several language requirements (English, French, and Portuguese). Partnerships with the SWIOFP have been built or reinforced through joint training programs, joint activities (surveys, cruises), or collaborative exercises (joint analyses and proposals such as the TDA and SAP). The main partners to the SWIOFP were the ACP FISH II Project, the ASCLME, IOC, EAF-Nansen Project/FAO/IMR (Norway), IFREMER, IRD, SADC, SWIOFC, and the WWF.

# SWIOFP Partners

Partner Institution/Project	Area of cooperation
ACP FISH II Project –	Synergy in preparation of fisheries management plans.
Strengthening Fisheries	SWIOFC implicated in implementation.
Management in ACP	
Countries	
ASCLME – Agulhas and	Partner LME project implemented by the UNDP. One of three
Somali Current Large Marine	(ASCLME, SWIOFP, WIO-Lab) linked projects that utilize the
Ecosystem Project	ecosystem-based methodology to address resource
	management in two separate LME's in the Southwest Indian
	Ocean (SWIO).
IOC/COI – Indian Ocean	Cofinancing contribution through the SMARTFISH project
Commission	funded by the European Union and implemented by the IOC.
	Collaboration on governance and regional mechanism for
	cooperation and compliance. SWIOFC is involved in its
	implementation. IOC is also the recipient of a \$1.1 million
	grant (signed 02/08/13) from the Development Grant Facility
	(DGF) under the Global Partnership for Oceans (GPO) in
	Support of Rights-Based Fisheries (handout from workshop).
	Supports key activities of the SWIOFC and IOTC.
IOTC – Indian Ocean Tuna	Participation of the Secretary of the IOTC in key SWIOFP and
Commission	SWIOFC meetings on Project activities.
EAF Nansen Project/	Collaboration on fisheries management plans. EAF-Nansen
FAO/IMR (Norway)	project (Strengthening the Knowledge Base for Implementing
	an Ecosystem Approach to Marine Fisheries in Developing
	Countries) is a Norad-funded project executed by the Fisheries
	Management and Conservation Service of the FAO Fisheries
	Anarcash to Eishering (EAE)" has been recommended for
	implementation by the EAO Committee for Eighering (COEI)
	The nurness is to plan, develop and manage fisheries in a
	manner that addresses the multiplicity of societal needs and
	desires without jeopardizing options for future generations
IEREMER - Institut Français	Cofinancing contribution for fisheries research (primarily for
de Recherche pour	salaries of French experts operating costs and research vessel
l'Exploitation de la Mer	lease costs)
IRD - Institut de Recherche	Cofinancing contribution for fisheries research (primarily for
nour le Développement	salaries of French experts operating costs and research vessel
	lease costs)
SADC – South Africa	Harmonization of fisheries policies
Development Community	
SWIOFC – South West Indian	FAO legal entity. Acts as the Regional Policy and Steering
Ocean Fisheries Commission	Committee for the SWIOFP.
WWF – World Wildlife Fund	Cofinancing of IOTC preparation meetings: harmonization of
	legislation and RBM (2011).

A Project website (www.swiofp.net) has also been developed for disseminating Project documents, data and information with member countries and the general public. Most Project related outputs such as meeting reports, technical reports, publications, and linked sites are available, although not all the information is up to date or contain latest versions of reports.

91. **Reinforcing the regional management structure for resource management**. In addition to the establishment of the national and regional units for managing the Project, the SWIOFP was represented and actively contributed to SWIOFC decision meetings, carried joint capacity building activities with institutions such as the IOC and EAF-Nansen project, established working groups on stock assessment, cruise data analysis, and others, and funded technical training for, e.g., EAF management plans for each country. SWIOFC provides a technical support to member countries through its Scientific Committee which reviews and endorses scientific findings/results of the Project. Member countries jointly participate in all SWIOFC management and technical meetings and are represented in technical working groups on project activities.

92. **Transforming the SWIOFC.** Formed in November 2004, its role was initially built on a weak agenda for ecosystem-based management of regional fisheries. It acted as an advisory body for the management and development of fisheries with the EEZ of the SWIO coastal states. Throughout the project implementation period, however, the Commission has been implicated and consulted in the implementation of the SWIOFP and ASCLME projects. It provided a technical review and discussion forum for member countries and endorsed research findings. Currently, there is a proposal to transform the Commission from an advisory body (under FAO Article VI) to an advisory and regulatory/managing body (FAO Article XIV), which would greatly aid technical research data and information to be translated into practical management application. Post transformation will need additional donor funding.

# Implementing the LME-based approach to ecosystem based management.

93. **Review of national fisheries regulations** and identification of areas for harmonization. A regional Governance and Policy Assessment study was carried out jointly with the ASCLME project. This followed workshops held jointly by SWIOFP and the ASCLME with member countries to consolidate individual country reports (ASCLME). The study looked at the fisheries policies and governance issues in the region and its endorsement was sought in several meetings prior to its finalization. In addition, a review of legislation and harmonization of legislation and protocols, jointly financed with the World Wildlife Fund (WWF) has also been produced. It included a review of Rights-based Management (RBM), an examination of fisheries management plans in the region with a review of options on ways to improve the SWIOFC.

94. **Development of Fisheries Management Plans**. Nine countries have prepared between them, eleven fisheries management plans in the region, with the assistance of the Project and in partnership with the EAF Nansen project. The SWIOFP and Nansen project provided back-up mission support, consultant services, meetings and workshops to help the member countries in preparing the plans based on the Ecosystem Approach in Fisheries management (EAF) model. The status of fisheries management plans at EOP are:

Country	EAF- Nansen	Joint SWIOFP /EAF- Nansen	Type of Fishery	Baseline Report	Ecological Risk Assessment	Management Plan Status
Comoros	-	~	Demersal small-scale	~	✓	Final
Kenya	-	~	Small and medium pelagic	~	~	Final
		~	Artisanal and semi- industrial shrimp	~	~	Final
Madagascar		1	Demersal	✓	✓	Final
Mauritius	-	1	Demersal banks	~	✓	Final
Mozambique	~	~	Sofala Banks shallow water shrimp	~	~	Final
	✓	1	Demersal line	✓	✓	Draft
Seychelles	~	✓	Artisanal dermersal	✓	✓	Final
South Africa	-	~	Large pelagic	~	✓	Draft
Tanzania	~	~	Artisanal small and medium pelagic	~	~	Approved
La Réunion	~	~	FADs fisheries management plan	-	-	Draft

Source: SWIOFP, RMU, February 2013.

Preparation of the fisheries management plans is continuing after Project closing. As of November 2013, at least one additional management plans has been endorsed and their progress will be monitored by the SWIOFC.

#### TDA and SAP

95. The TDA and SAP were prepared jointly with the ASCLME project in 2012. At appraisal, it was anticipated that the TDA and SAP would be presented as integrated outputs between the three, linked, LME projects (SWIOFP, ASCLME and WIO-Lab). However, the different implementation timeframe for the WIO-Lab (2005-2010) and the timeframes for the SWIOFP and ASCLME (March 2013) did not allow for an integrated TDA and SAP. However, WIO-Lab did prepare its own TDA and SAP and its contents are integrated into the joint ASCLME/ SWIOFP reports. This satisfies a GEF–IW requirement for a harmonized TDA/SAP across the different LME projects. The Recipient ICR reported, however, that the linkages between the projects were poor because of the different implementation pace of each project. The combined ASCLME and SWIOFP TDA and SAP was also drafted before many of the relevant SWIOFP activities had been completed; hence, the TDA and SAP relied on a smaller base of fisheries data and information than would have been ideal had the projects been implemented at the same pace.

# **Annex 3. Economic and Financial Analysis**

1. Because the Project was primarily driven by a fisheries research agenda, a rate of return analysis was not calculated and would not be relevant for this phase. The Project established a preliminary data inventory and built knowledge of selected target fisheries and species on which to provide a scientifically valid base for decision-making. These baselines were required to enable better governance of the fisheries and more sustainable management of an industry that contributes \$2.35 million to GDP annually, for the nine SWIOFP beneficiary countries<sup>21</sup>. The fisheries and related industry would likely deteriorate without this succession of interventions.

<sup>&</sup>lt;sup>21</sup> Sumaila, 2012: ASCLME Regional Cost-Benefit Economic valuation

# Annex 4. Bank Lending and Implementation Support/Supervision Processes

# (a) Task Team members

Names	Title	Unit	Responsibility/ Specialty
Lending:			
Asego, Jennifer Akinyi	Procurement Assistant	AFCE2	Procurement, Kenya
Otieno Ayani	Financial Management Specialist	AFTFM	Fin. Mgt., Rwanda
Baimu, Evarist	Sr. Counsel	LEGAF	Legal Advice
Boisrobert, Cédric	JPO	AFTEN	Fisheries
Brown, Melissa	Consultant	FAO/CP	Incr. Cost Analysis
Bulls, Sandra Jo	Program Assistant	AFTR1	Admin. Support
Chamuco, Antonio	Senior Procurement Specialist	AFTPE	Procurement
Clement-Jones, Robert	Senior Environmental Economist	AFTES	Env. Economist
Doetinchem, Nina	Environmental Specialist	AFTS4	Env. Spec./GEF
Follea, Salimata	Operations Analyst	AFTEN	Project Support
Japp, David	Fisheries Consultant	FAO/CP	Fisheries
Kanungo, Gayatri	Environmental Specialist	AFTN3	Env. Specialist/GEF
Lane, William Leeds	Senior Environmental Specialist	AFTEN	TTL (previous)
Lang'o, Simon Ochien	Finance Officer	CTRLS	Disbursements
Lutz, Ernst	Senior Economist	AFTR1	Interim TTL
Matsukawa, Tomoko	Sr. Financial Officer	TWIFS	Trust Funds
Mneney, Donald Paul	Sr. Procurement Specialist	AFTPE	Procurement
Morris, Suzanne	Finance Officer	LOAG2	Loan Accounts
Ninio, Albert	Senior Counsel	LEGAF	Legal Advice
Ngigi, Josephine Kabura	Financial Management Specialist	AFTME	Fin. Management
Patil, Patwan	Senior Economist	EASRD	Econ. Analysis
Rambeloson, Sylvain Auguste	Procurement Specialist	AFTPC	Proc., Madagascar
Ravaoarimino, Lova	Procurement Specialist	AFTPC	Proc., Madagascar
Sallah, Tijan	Senior Agriculture Specialist	AFTS1	Interim TTL
Rukuba-Ngaiza, Nightingale	Senior Counsel	LEGAM	Legal Advice
Sabai, Mercy	Financial Management Specialist	AFTFM	Fin. Management
Song, Li	Consultant, GEF	AFTS4	Env. Specialist
Strengerowski-Feldblyum, Liba	Operations Analyst	AFTN2	Project Support
Talla Takoukam. Patrice	Counsel	LEGEN	Legal Advice
Tinga, Joao	Financial Management Analyst	AFTME	Fin. Management
Wiltshire, Wendy	Sr. Program Assistant	AFTR1	Admin. Support

Supervision/ICR:			
Amuguni, Henry Amena	Sr. Financial Management Spec.	AFTME	Fin. Mgt.
Asego, Jennifer Akinyi	Procurement Assistant	AFCE2	Proc., Kenya
Ayani, Otieno	FM Specialist	AFTFM	FM, Rwanda
Baimu, Evarist	Sr. Counsel	LEGAF	Legal Advice
Chu, Jingjie	Natural Resources Economist	AFTEN	Econ. Analysis
Darang, Marie Bernadette	Programs Assistant	AFTN1	Admin. Support
Davanger, Frode	Sr. Operations Officer	AFCRI	Operations, South Africa
Kwengwere, Jayne	Programs Assistant	AFTN1	Admin. Support
Munyori, Joel Buku	Procurement Specialist	AFTPC	Proc., Kenya
Ngigi, Josephine Kabura	Financial Management Spec.	AFTME	Fin. Management
Ninio, Alberto	Chief Counsel	LEGEN	Legal Advice
Rambeloson, Sylvain A.	Procurement Specialist	AFTPC	Proc., Madagascar
Ravaoarimino, Lova	Procurement Specialist	AFTPC	Proc., Madagascar
Tran, Huong-Giang L.	Consultant	AFTN1	ICR author
Vaselopulos, Virginie A.	Language Program Assistant	AFTN1	Admin. Support
Vincent, Xavier F. P.	Sr. Fisheries Specialist	AFTN1	TTL (current)
Warsame, Dahir Elmi	Sr. Procurement Specialist	AFTPE	Procurement

# (b) Staff Time and Cost

	Staff time and Cost (Bank Budget Only)		
Stage	# Staff Weeks	US\$ Thousands (Including travel and consultant costs)	
Lending			
FY01	9.93	66.41	
FY02	6.28	32.67	
FY03	10.32	54.24	
FY04	16.78	83.35	
FY05	23.40	119.60	
FY06	22.60	112.29	
FY07	17.81	89.64	
Subtotal:	107.12	558.21	
Supervision/ICR			
FY08	9.55	52.19	
FY09	9.17	69.32	
FY10	5.95	59.14	
FY11	11.69	78.92	
FY12	11.81	65.20	
FY13	5.40	64.01	
Subtotal	53.57	388.77	
Total	160.69	946.97	

Annex 5. Summary of Borrower's ICR and/or Comments on Draft ICR

# Implementation Completion Report (summary 10 page version)

PREPARED BY THE PARTICIPATING COUNTRIES (COMOROS, KENYA, MADAGASCAR, MAURITIUS, MOZAMBIQUE, REUNION, TANZANIA, SEYCHELLES, SOUTH AFRICA)

FOR THE

# SOUTH WEST INDIAN OCEAN FISHERIES PROJECT



# MARCH 2013

Report prepared by ICR consultant, Graeme Macfadyen, Poseidon

#### Acknowledgements

The ICR consultant would like to thank all those who facilitated the completion of this ICR. In particular, the consultant wishes to acknowledge the important contributions made by Mr Rondolph Payet (the Regional Executive Secretary) and all other RMU staff, KMFRI, NMUs, and all other stakeholders who participated in discussions with the consultant, and who provided written views on the project.

#### Acronyms

ASCLME	The Agulhas and Somali Current Large Marine Ecosystems (Project)
EC	European Commission
FAO	Food and Agriculture Organisation (of the United Nations)
FFEM	French Global Environment Facility
FP	Focal Point
GEF	Global Environment Facility
IFR	Interim Financial Report
10C/COI	Indian Ocean Commission
ΙΟΤΟ	Indian Ocean Tuna Commission
IRD	Institut de recherche pour le développement
IW	International Waters
KCDP	Kenya Coastal Development Project
KMFRI	Kenya Marine and Fisheries Research Institute
KSh	Kenyan Shillings
LME	Large Marine Ecosystem
M&E	Monitoring and Evaluation
MACEMP	Marine and Coastal Environment Management Project (Tanzania)
MSc	Masters in Science
MTR	Mid Term Review
NCC	National Component Coordinator
NEPAD	New Partnership for African Development
NGO	Non Governmental Organisation
NMU	National Management Unit
ORI	Oceanographic Research Institute (South Africa)
PAD	Project Appraisal Document
PDO	Project Development Objective
PIC	Project Implementation Committee
PIM	Project Implementation Manual
RCC	Regional Component Coordinator
RCWG	Regional Component Working Group
RES	Regional Executive Secretary
RFPM	Regional Finance and Procurement Manager
RMU	Regional Management Unit

RPSC	Regional Policy Steering Committee
SADC	Southern African Development Community
SAP	Strategic Action Plan
SWIO	South West Indian Ocean
SWIOFC	South West Indian Ocean Fisheries Commission
SWIOFP	South West Indian Ocean Fisheries Project
TAFIRI	Tanzanian Fisheries Research Institution
TDA	Transboundary Diagnostic Analysis
TTL	Task Team Leader (of the Bank)
UNCLOS	United Nations Convention on the Law of Sea
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
WB	World Bank
WIOLaB	Western Indian Ocean Land Based Impacts on the Marine Environment Project
WIOMSA	West Indian Ocean Marine Science Association

#### 1. Introduction to the Project

The South West Indian Ocean Fisheries Project (SWIOFP) Global Environment Facility (GEF) grant agreement between the Republic of Kenya (on behalf of the participating countries) and the International Bank for Reconstruction and Development (on behalf of the GEF) was signed on October 9<sup>th</sup> 2007, and became effective on 16th April 2008. The project closing date in the grant agreement was specified as 30th November 2011, but following the Mid-Term Review (MTR) and a re-alignment of the Project Appraisal Document (PAD) and the grant agreement, the closing date was changed to the 31<sup>st</sup> March 2013, with an additional four month completion period to finalise all project audits and accounts. The total project budget planned during the design was US\$22.65 million, with US\$12 million provided by the GEF, US\$6.68 from participating countries as counterpart finance, US\$2.27 million from the Norwegian Ministry of Foreign Affairs through the EAF Nansen project, US\$1 million from the French Global Environment Fund, and US\$0.7 million from the Food and Agriculture Organisation (FAO) of the United Nations.

SWIOFP had the overall objective 'To promote the environmentally sustainable use of fish resources through adoption by countries riparian to the Southwest Indian Ocean of a Large Marine Ecosystem (LME)-based approach to fisheries management in the Agulhas and Somali LMEs that recognizes the importance of preserving biodiversity.' This was to be achieved through identification and study of offshore non-tuna species and their exploitation within the South West Indian Ocean, development of institutional and human capacity for both fisheries science and management, development of fisheries management plans at both national and, where appropriate, regional levels, and mainstreaming biodiversity in fisheries management, policy and legislation. The project had six main components to achieve these outcomes. Component 1 addressed data and information technology. Components 2-4 covered assessment and sustainable use of crustacean, demersal, and pelagic species respectively. Component 5 focused on ecosystems and biodiversity issues, while Component 6 had responsibility for both the project management structures (e.g. the Regional and National Management Units) as well as for the preparation of management plans, a Transboundary Diagnostic Analysis (TDA), and a Strategic Action Plan (SAP).

The following countries participated in SWIOFP: Comoros, France (by virtue of its islands in the region although it is not a beneficiary of the grant agreement), Kenya, Madagascar, Mauritius, Mozambique, Seychelles, South Africa (East Coast only), and the United Republic of Tanzania. Somalia is also an observer to the project.

#### 2. Information about the ICR and summary results

This Implementation Completion Report (ICR) was prepared by the participating countries, and facilitated by a consultant recruited for the purpose. Over a three week period during November-December 2012 the consultant consulted with all countries covered by the project to illicit their views about the project. With the exception of Reunion for which remote consultation was completed with the France National Management Unit (NMU), all other countries were visited by the consultant and meetings were held in person with country NMUs and stakeholders, the RMU, and other relevant international organisations (e.g. Indian Ocean Tuna Commission, the Indian Ocean Commission, the South West Indian Ocean Fisheries Commission). A stakeholder questionnaire prepared by the consultant was completed by all NMUs based on facilitation provided by the consultant. The Regional Management Unit (RMU), The Kenya Marine and Fisheries Research Institute (KMFRI), and the South West Indian Ocean Commission also completed a questionnaire. The completed questionnaires form the basis for the findings presented in this ICR. In keeping with the participatory nature of the project's design and implementation, this ICR was thus prepared in a truly participatory manner. Based on the World Bank guidelines for the completion of ICRs<sup>22</sup>, the stakeholder questionnaires, and this report, were structured around three main areas: factors affecting implementation; success in achieving the project objectives; key lessons learned. Ratings of performance have been provided for key questions are suggested in the Bank's ICR Guidelines, and a table of the ratings is provided below. The standard deviations for the answers/ratings to each question are low, and the 'word ratings' shown in the table below using averages, were found to be the same as those when using a median.

<sup>&</sup>lt;sup>22</sup>http://web.worldbank.org/WBSITE/EXTERNAL/PROJECTS/EXTPOLICIES/EXTOPMANUAL/0,,content MDK:20064620~menuPK:64701637~pagePK:64709096~piPK:64709108~theSitePK:502184~isCURL:Y,00.h tml
Торіс	RMU	KMF	Ken	Tan	Moz	SAf	Mad	Mau	Sey	Com	Fr	FC	Con	Av.	Rating using average	Stdev	Median
Factors affecting implementation				1													
Quality of project design	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.5	5.0	4.0	4.0	4.5	4.77	satisfactory	0.4	5.00
Partnerships												1					
ASCLME for TDA/SAP	4.0	2.0	6.0	5.0	5.0	4.0	6.0	5.0	6.0	5.0	5.0	5.0	3.0	4.69	satisfactory	1.1	5.00
other donors	5.0	5.0	4.0	5.0	4.0	4.0	6.0	6.0	5.0	5.0	4.0	6.0	5.0	4.92	satisfactory	0.7	5.00
national governments	5.0	4.0	5.0	4.0	4.0	5.0	6.0	6.0	4.0	5.0	4.0	6.0	4.0	4.77	satisfactory	0.8	5.00
local stakeholders	4.0	4.0	4.0	5.0	5.0	3.0	5.0	6.0	2.5	5.0	4.0	4.0	4.0	4.27	moderately satisfactory	0.9	4.00
Overall rating for partnerships	4.5	3.8	4.8	4.8	4.5	4.0	5.8	5.8	4.4	5.0	4.0	5.3	5.0	4.72	satisfactory	0.6	4.75
Institutional arrangements						1						1					
decision-making processes	5.0	6.0	5.0	5.0	6.0	4.0	5.0	6.0	5.0	5.0	4.0	5.0	5.0	5.08	satisfactory	0.6	5.00
administrative guidance documents	5.0	4.0	5.0	5.0	4.0	4.0	5.0	5.0	4.0	4.0	5.0		4.0	4.50	moderately satisfactory	0.5	4.50
RPSC oversight	5.0	4.0	5.0	4.0	3.0	3.0	5.0	4.0	4.0	5.0	4.0	5.0	3.0	4.15	moderately satisfactory	0.8	4.00
Bank oversight	5.0	4.0	5.0	6.0	4.0	4.0	6.0	5.0	6.0	5.0	5.0	5.5	5.0	5.04	satisfactory	0.7	5.00
RMU	5.0	6.0	5.0	5.0	4.0	5.0	6.0	5.0	5.0	5.0	6.0	5.0	5.0	5.15	satisfactory	0.5	5.00
KMFRI	4.0	4.0	5.0	4.0		3.0	6.0	4.0	4.0	4.0	3.0	4.0	4.0	4.08	moderately satisfactory	0.8	4.00
NMUs/NCCs	5.0	4.0	5.0	5.0	5.0	4.0	5.0	5.0	4.0	5.0	3.0	4.0	3.0	4.38	moderately satisfactory	0.7	5.00
RCCs/RCWGs	5.0	5.0	5.0	4.0	4.0	4.0	3.0	4.0	3.5	4.0	3.0	4.0	3.0	3.96	moderately satisfactory	0.7	4.00
Co-financing													5.0	5.00	satisfactory	14	5.00
Overall rating for institutional arrangement	4.9	4.6	5.0	4.8	4.3	3.9	5.1	4.8	4.4	4.6	4.1	4.6	4.1	4.56	satisfactory		4.63
M&E																	
design	5.0	5.0	6.0	5.0	4.0	4.0	5.0	5.0	5.0	5.0	5.0	4.0	3.0	4.69	satisfactory	0.7	5.00
implementation	5.0	5.0	6.0	4.0	4.0	4.0	5.0	4.0	5.0	5.0	4.0	5.0	4.0	4.62	satisfactory	0.6	5.00
utilisation	6.0	5.0	4.0	5.0	4.0	4.0	5.0	6.0	5.0	5.0	4.0	6.0	5.0	4.92	satisfactory	0.7	5.00
Overall rating for M&E	5.3	5.0	5.3	4.7	4.0	4.0	5.0	5.0	5.0	5.0	4.3	5.0	4.0	4.74	satisfactory	0.5	5.00
Fiduciary aspects and safeguards																	
procurement	3.0	5.0	5.0	4.0	4.0	4.0	5.0	3.0	5.0	5.0	1.0	3.0	3.0	3.85	moderately satisfactory	1.2	4.00
disbursement	5.0	6.0	5.0	4.0	4.0	4.0	5.0		4.0	5.0	5.0	5.0	5.0	4.75	satisfactory	0.6	5.00
safeguards	5.0	6.0	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.00	satisfactory	0.4	5.00
revising fund allocations	5.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	6.0	5.0	5.0	5.15	satisfactory	0.4	5.00
financial management guidance	5.0	6.0	5.0	5.0	5.0	5.0	5.0	5.0	4.0	5.0	5.0		5.0	5.00	satisfactory	0.4	5.00
Overall rating for fiduciary	4.6	5.8	5.0	4.6	4.4	4.6	5.0	4.5	4.6	5.0	4.4	4.5	4.6	4.74	satisfactory	0.4	4.60
Outcomes																	
Relevance			11										5.0	5.00	satisfactory		5.00
Global objective																· · · · · · ·	
indicator 1	4.0	4.0	5.0	5.0	2.0	4.0	3.0	3.5	3.5	4.0	4.0	5.0	4.0	3.92	moderately satisfactory	0.8	4.00
indicator 1	4.0	4.0	5.0	4.0	3.0	4.0	4.0	3.5	3.0	4.0	4.0	5.0	4.0	3.96	moderately satisfactory	0.6	4.00
indicator 3	4.0	4.0	5.0	4.0	1.0	4.0	3.0	3.5	3.0	4.0	4.0	4.0	3.0	3.58	moderately satisfactory	0.9	4.00
Overall rating for global objective	4.0	4.0	5.0	4.3	2.0	4.0	3.3	3.5	3.2	4.0	4.0	4.7	3.7	3.82	moderately satisfactory	0.7	4.00
PDOs																	
objective/indicator 1	6.0	4.0	5.0	5.0	5.0	4.0	5.0	5.5	4.0	5.0	4.0	5.0	4.0	4.73	satisfactory	0.6	5.00
objective/indicator 2	5.0	4.0	4.0	5.0	5.0	4.0	5.0	5.5	4.0	5.0	4.0	5.5	4.0	4.62	satisfactory	0.6	5.00
objective/indicator 3	5.0	4.0	5.0	4.0	5.0	4.0	5.0	5.5	4.5	5.0	4.0	6.0	4.0	4.69	satisfactory	0.6	5.00
objective/indicator 4	5.0	4.0	5.0	5.0	3.0	3.0	5.0	5.5	4.5	5.0	4.0	5.5	5.0	4.58	satisfactory	0.8	5.00
Overall rating for PDOs	5.3	4.0	4.8	4.8	4.5	3.8	5.0	5.5	4.3	5.0	4.0	5.5	4.3	4.65	satisfactory	0.6	4.75
Efficiency	4.0	4.0	5.0	5.0	5.0	4.0	4.0	5.0	4.0	5.0	3.0	5.0	3.0	4.31	moderately satisfactory	0.7	4.00
Overall ratings based on above scores																	
Factors affecting implementation	4.9	4.8	5.0	4.8	4.4	4.3	5.2	5.0	4.6	4.9	4.2	4.7	4.4	4.71	satisfactory	0.3	4.75
Outcomes	4.4	4.0	4.9	4.7	3.8	3.9	4.1	4.7	3.8	4.7	3.7	5.1	4.0	4.29	moderately satisfactory	0.4	4.11
Sustainability risk	2.0	3.0	3.0	3.0	1.0	2.5	3.0	3.0	3.0	3.0	3.0	4.0	2.5	2.77	moderate	0.7	3.00

Notes: Responses in questionnaires are converted to numbers as follows: highly satisfactory=6, satisfactory=5, moderately satisfactory=4, moderately unsatisfactory=3, unsatisfactory=2, highly unsatisfactory=1. Average scores per question are then converted back to a word rating as follows: >5.5=highly satisfactory. >4.5=satisfactory, >3.5=moderately satisfactory, >2.5= moderately unsatisfactory, >1.5=unsatisfactory, <1.5=highly unsatisfactory". Notes: KMF = KMFRI, FC = SWIOFC, Con = ICR consultant

## 3. Factors affecting implementation

Implementation performance of the SWIOFP with regards to factors affecting implementation has been 'Satisfactory'.

Table 1: Summary table of ratings for factors affecting implementation

Factor affecting implementation	Rating			
Project preparation, design, and quality and entry	Satisfactory			
MTR	Satisfactory			

Monitoring and evaluation	Satisfactory
Fiduciary aspects and safeguards	Satisfactory
Partnerships	Satisfactory
Institutional arrangements	Satisfactory
Overall rating of factors affecting implementation	Satisfactory
Sustainability / risk to development outcomes	Moderate

The **project design** was 'Satisfactory' and generally well conceived, largely due to its participatory nature, and beneficiary countries all report good involvement in the design process. The background analysis presented in the PAD is sound, and included a list of relevant policy, legislation and management documents in each partner country, with a description of the linkages, coherence and contribution of SWIOFP to them. The analysis also profiled previous projects and those existing at the time of the design, both to inform the appropriate technical content of the project, as well as the key lessons learned which were then incorporated in the SWIOFP design. Some of the key lessons learned and incorporated into the project. Beneficiary countries view the project design as being well conceived in terms of a phased approach, discrete components dealing with different issues, and recognition that countries would have different levels of interest in participating in different components and sub-components. However as noted in the Mid-Term Review (MTR), Components 5 and 6 were not given sufficient attention in the project design and as a result were not sufficiently funded at the outset within the overall project budget envelope. The project design was not overly complex in terms of the institutional structure specified. The functions and responsibilities at different levels of the institutional structure for the project were clearly and appropriately defined in the design, along with a clear specification of the relationships between the different hierarchies. The project design was ambitious in terms of achieving the objectives specified within the lifespan of the project, but stakeholders generally feel not overly so if the project had commenced immediately on signature and proceeded without any delays and if piracy<sup>23</sup> had not come to present such a problem during implementation, although an additional year for implementation might be have been appropriate. One significant problem in the design of the project was that the PAD planned for implementation of the project over a five year period, while the grant agreement only provided for a four year project implementation period. This inconsistency was resolved following the MTR and a re-alignment of the project.

With respect to the design, it is appropriate to highlight the overall approach to implementation incorporated into the design, whereby the project was implemented by and for staff already part of the institutions in the region in a truly participatory manner, rather than by external/international consultants. Given Bank rules which meant that the NCCs and RCCs could not be paid extra monies to implement project activities, and given existing workloads of government/university staff, this approach certainly had a negative impact on the speed of project implementation, and to some extent the motivation to participate in the project. However given the positive aspects of this overall approach in terms of stakeholder buy-in, capacity development, and support for lasting regional networks for improvement fisheries management, project beneficiaries feel strongly that such an approach was on balance preferable to the approach used by other projects (e.g. the ASCLME) which relied heavily on consultants or larger numbers of technical support staff.

<sup>&</sup>lt;sup>23</sup> Piracy peaked around late 2008, and started regressing late in 2012 just as the project was ending.

The PAD provided detail on the perceived risks at the time of the project design, and proposed some mitigating strategies. The stated risks are clearly articulated and comprehensive. The most notable risk not considered during the design of the project, and one which could not have been foreseen during design, was piracy in the region.

Project performance in completing the actions recommended by the <u>MTR</u>, and the usefulness of the MTR recommendations, are rated as 'Satisfactory'. The MTR of the project was completed in March 2011 and resulted in a list of 58 specific recommendations, with assigned responsibilities (most of which were for the participating countries [RMU, NMU, KMFRI] to complete) and timeframes. Performance in terms of completing the recommendations was good, with forty-seven of these recommendations completed in full subsequent to the MTR, and a further 3 partially completed. Beneficiary countries reported that the impact of the recommendations and their completion, was a positive and marked change in implementation

The **M&E** for the project is rated as 'Satisfactory', with design, implementation, and utilisation all individually rated as 'satisfactory'. M&E requirements for the project were specified in the PAD, and elaborated in greater detail in the Project Implementation Manual. The principal monitoring reports used by the project as required in the PAD or PIM were: quarterly interim financial reports; quarterly activity reports; annual audits; and annual progress reports. The quarterly and annual M&E reports were prepared as required at NMU, RMU and component levels, reviewed and amalgamated by the RMU which had overall responsibility for monitoring progress, and then submitted to the World Bank, KMFRI, The Kenyan Treasury, the RPSC, and other relevant supervisory project structures as appropriate. The project logframe and result/outcome monitoring framework in the design and Annex 11 of the original version of the PIM was weak, but this was addressed during the MTR. Post-MTR, the revision of the logframe and indicators allowed for considerable improvements in tracking the progress of the project, both within the project institutional structure and by its supervisory bodies (RPSC, KMFRI and the Bank). M&E information was used well in a feedback loop so as to better improve the likelihood of ultimate project success.

The overall rating for fiduciary aspects and safeguards is 'Satisfactory'. Procurement performance was moderately satisfactory with some delays experienced by the project, but performance improved post MTR. Disbursement was satisfactory, and was particularly impressive during the last 2 years of the project. By the end of the project overall disbursement of GEF funds was close to 100% with strong performance was reflected across all 6 components. With respect to disbursement from i) the EAF Nansen project, ii) FAO, and iii) French funds, actual disbursements were in excess of those originally budgeted. The financial safeguards associated with the project were satisfactory, and included the requirements for quarterly financial reports to be provided by the NMUs and for annual audits of all NMUs and the RMU, and periodic fiduciary assessments made by the Bank. Performance by NMUs in completing financial reports and audits and submitting them to the RMU in a timely manner was varied between countries, but improved during the project as project staff became more familiar with the requirements, as training was provided, and as the financial management guidelines were clarified and improved. The individual audits completed did not result in any significant issues or concerns being identified. The project adopted a flexible and adaptive approach to fund allocations which proved satisfactory, and the annual budget and planning meetings enabled the project to revise fund allocations as necessary and based on performance. The financial management guidelines contained within the Financial, Disbursement and Procurement manual were satisfactory.

The overall rating for **partnerships** fostered by the project is 'Satisfactory', based on the ratings for the partnerships achieved by the project with different stakeholder groups outside of the project.

These groups included: the ASCLME project; other donors, projects, and international organisations; with governments in the region through the NMU's; and with NGOs and stakeholders.

The overall rating for the *institutional arrangements* for the project and their functioning is 'Satisfactory'. The institutional structure for the project provided for a RMU, and NMUs in each participating country, with National Component Coordinators (NCCs) for each of the six components in each of the NMUs. Regional Component Coordinators (RCCs) were nominated for each of the six components so that for each component one of the NCCs was also the RCC. This structure was appropriate given the regional nature of the project and different types of activities to be completed within the different components. KMFRI also played an important role in the project given that it had responsibility for the special account for the project, and was responsible for ensuring due diligence in both procurement and disbursement of funds, and for providing overall supervision of the RMU. For all of these institutions individually, and taken collectively, performance was disappointing during the first 18 months of the project, but improved markedly in later years. The reasons for this were because a fully staffed RMU was not in place from the beginning of the project, and because the project was implemented primarily by government staff (without additional financial incentives being provided) rather than external consultants. This meant that progress was initially slowly, and that the capacity of the NCCs and the RCCs and their engagement with the project was variable. However over time all project participants came to realise the benefits and successes of the project, and this helped to increase implementation performance. It is also noteworthy that 91% of the intended co-financing by participating countries was provided in terms of individual country contributions towards staff salaries and operating costs.

With regards to <u>sustainability</u>, key outcomes of the SWIOFP have included strengthening of institutional and human capacity, fostering a regional identity, development of regional protocols and standards (e.g. for cruises, management plans), and establishing regional networks which were not present before the project started. These outcomes will themselves serve to support the sustainability of other project outcomes. Of particular note is that staff working on the project were staff from, and embedded in, the implementing institutions, rather than being consultants brought in to implement the project. On completion of the project, stakeholders in the region feel confident that staff will remain in these institutions, and that the capacity and networks built by the project, and not previously in existence, will remain. A number of important steps were taken both by NMUs/countries, and at the regional level, to ensure sustainability of project outcomes. Nevertheless risks to sustainability of the project's outcomes remain despite the mitigating strategies and activities completed, and the overall sustainability risk is rated as 'Moderate'.

## 4. Project Outcomes

Performance in achieving the project outcomes was 'Moderately satisfactory'.

Project outcomes	Rating				
Relevance of objectives	Satisfactory				
Achievement of the global project objective	Moderately satisfactory				
Achievement of the project development objectives	Satisfactory				
Efficiency	Moderately satisfactory				
Overall rating of project outcomes	Moderately satisfactory				

Table 2: Summary table of ratings for project outcomes

The <u>relevance of the project objectives</u> is rated as 'Satisfactory'. The project objectives were highly relevant to the needs of both individual beneficiary countries, and the region as a whole. The main focus of the project objectives on improved management through building capacity, filling research gaps, and promoting regional networks and collaboration, were strongly supported by stakeholders. The project objectives were also highly relevant to the Bank's assistance strategy given the potential long-term impacts on beneficiaries in low income countries. Furthermore, the objectives were relevant for all the main funders of the project, with the project objectives having high relevance: for GEF in terms of its International Waters (OP8) and Biodiversity (OP2) focal areas; for FAO given their advocacy and support for an ecosystems-based approach to fisheries management; and for both the Norwegian Ministry of Foreign Affairs and the French Global Environment Fund given their focus on capacity development and sustainable management of resources.

The **global project objective** was "To promote the environmentally sustainable use of fish resources through adoption by countries riparian to the Southwest Indian Ocean of a Large Marine Ecosystem (LME)-based approach to fisheries management in the Agulhas and Somali LMEs that recognizes the importance of preserving biodiversity)". There were three indicators to measure the success in achieving the objective, and overall performance in achieving the objective was 'Moderately Satisfactory'.

Overall performance in achieving the four **Project Development Objectives** (PDOs) and the four associated indicators is rated as 'Satisfactory'. None of the indicators for the PDOs were well matched with the second PDO 'to develop institutional and human capacity through training and career opportunities'. The project performance in developing such capacity was particularly satisfactory, with many training opportunities provided by the project and with an extensive programme of funding for MSc students. Indeed many project participants felt that institutional and human capacity developments, and regional networking, brought about by the project, were critically important outcomes of the project.

The project certainly generated considerable outcomes in the region, and contributed significantly to the intended objectives. However, in many cases success in achieving the objectives and indicators was only partial, with the project having made some progress and having laid the groundwork for the objectives to be realised, but with full realisation of the objectives only likely after the lifespan of the project and with additional follow up and action necessary by donors and stakeholders. The slow start of the project and poor implementation performance in the first 18 months meant that the project was thereafter trying to catch up, and this had a negative impact both on the project's ability to achieve its objectives, and on the **project efficiency** with a focus at times on disbursing monies so as to complete project activities, but without sufficient thought about the resulting impacts/outcomes/benefits. In hindsight, while there were many positive examples of project efficiency, there was also considerable expenditure on cruises, Fish Aggregating Devices (FADs), tagging, and training of observers, which can be considered to have only marginally contributed to the project's intended outcomes and objectives. Performance in project efficiency is therefore rated as 'Moderately Satisfactory'.

## 5. Lessons Learned

Lessons learned from the project design are that:

- A truly participatory design process helps to ensure stakeholder buy-in to the project, relevance of the project, appropriate institutional mechanisms for implementation, and suitable levels of complexity;
- It is easy to specify overly-ambitious objectives given the timeframe allocated for a project

   the SWIOFP could have benefitted from at least one more year for its implementation
   given the objectives specified;
- Having a functioning and fully staffed regional/core management unit from day one of a project is critical for projects in achieving their intended objectives. If there any concerns that this may not be the case, then projects should build-in additional time for implementation and not assume that activities will commence immediately/rapidly following grant agreement signature. A failure of the SWIOFP to have the RMU in place from the beginning of the project had a significant negative impact on the project that, even with good RMU performance in later years, was hard to recover from;
- Careful thought should be given to the amount of monies allocated to different activities, so as to ensure that the project is able to fully benefit from them in achieving project objectives. In the case of the SWIOFP, considerable funds were spent on cruises, with the project ultimately unable to use many of the outputs in a meaningful/timely manner to support the project's main objectives (although benefits from the cruises are expected to be realised post-project);
- Linking fisheries management projects in their design with regional bodies (as was the case with SWIOFP linkages with SWIOFC) can provide significant benefits during later project implementation, as well as contributing to project sustainability post project completion;
- Involving large numbers of countries (and languages) greatly increases the complexity and challenges for successful implementation, but can result in very significant benefits in terms of regional collaboration, networking, and capacity development of institutions and individuals that may not have existed before. This was certainly the case for the SWIOFP;
- A regional project such as the SWIOFP which is designed to be implemented primarily by government staff (without additional financial incentives being provided) is likely to progress more slowly than one implemented largely by consultants. However, it may also provide good value for money, and provide more lasting and sustainable improvements due to the greater stakeholder buy-in and involvement that result from such an approach. A project design such as for the SWIOFP can ensure that ownership of data and research remains within, and is shared within, the region. However it is imperative if such an approach is used, for suitably qualified and motivated individuals to be nominated by participating governments;
- A suitably staffed regional management unit is critical for large regional projects such as SWIOFP. SWIOFPs implementation and the realisation of outcomes would have been greatly enhanced if the RMU had been staffed with one or two additional technical staff to support the RCCs, NMUs and NCCs;
- Using existing institutional structures within a project to pass science information to national and regional fisheries managers (as was the case for SWIOFP with the use of government research institutions completing much of the work and feeding information to fisheries departments and Ministries) provides a strong science/policy linkage;

- Project designs which link projects and assume their parallel implementation can be risky. The programmatic approach taken to the SWIOFP, the ASCLME and the WIOLaB projects, with three different implementing agencies, and ultimately differing timeframes for implementation, created varying degrees of difficulties for all three projects given the intended integration of many activities, outputs and outcomes; and
- A strong focus on activities related to marine science is important in underpinning the achievement of higher level objectives focussing on sustainable fisheries and ecosystems-based management.

### Lessons learned from the project's implementation are that:

- Good partnerships with other projects, donors and institutions (such as those fostered by the SWIOFP), are critically important in ensuring success in project implementation, and ultimately in achieving project objectives;
- Well designed and implemented M&E systems, with clearly defined reporting requirements, logframe and indicators, are invaluable in ensuring successful project implementation, and in identifying and correcting project deficiencies as they occur. The SWIOFP experience was positive in this regard, with the M&E system serving project implementation well;
- Oversight bodies or steering committees for projects must be suitably rigourous and critical in their guidance of project activities, and their composition must be of people not involved directly with project implementation. This was not always the case for the SWIOFP RPSC during the early years of the project (although was rectified post MTR), and resulted in some cases in a failure to provide the necessary guidance needed for the project;
- Mid-Term Reviews must take place at the appropriate stage during a project's lifespan, with clear recommendations and agreed actions provided (with assigned responsibilities and timeframes). In the case of the SWIOFP, successful completion of the agreed actions made a positive difference to many aspects of project implementation;
- NCCs and RCCs were not always as engaged with the project to the extent they might have been, largely due to the Bank rules prohibiting additional payments from being made to government staff. Creative solutions to this problem, while not infringing Bank rules, should be sought during future projects to better incentivise government staff participation, and implementing institutions must complete proper staff time management to ensure that staff are available for project activities. High turnover of project staff (as was the case for NCCs during the early stages of the project) can also negatively impact on performance;
- It is unlikely that any project can ever be implemented exactly as was expected during its design. Implementing institutions must therefore be flexible and adaptive, as SWIOFP was, so as to find solutions to problems that arise (e.g. piracy and the use of wet lease vessels rather than the *R/V Dr. Fridtjof Nansen*) and to adapt project budgets to needs (e.g. through the use of budget and work planning meetings). Timeframes for project implementation should be generous enough to allow for unplanned events; and
- Procurement processes, if slow or unresponsive to the demands of the project's participants, can greatly de-motivate project staff and cause problems for implementation

progress. SWIOFP procurement problems were largely resolved as the project proceeded, but could have been better in the early stages of the project.

### Lessons learned with respect to project outcomes are that:

- A strong emphasis by donors, project management units, and project beneficiaries on disbursement can have a negative impact on efficiency. In the case of the SWIOFP, the project was very successful at disbursing funds, but could have done more to ensure that such funds were spent wisely in achieving project outcomes and objectives. In some cases funds were spent without sufficient thought taking place about the resulting impacts/outcomes;
- The SWIOFP's success in achieving the objectives and indicators was only partial (despite the accrued progress in other areas), with the project having made some progress and having laid the groundwork for the objectives to be realised. However full realisation of the objectives is only likely after the lifespan of the project and with additional follow up and action necessary by donors, stakeholders, and particularly by the SWIOFC (which will provide a critical role in ensuring sustainability given the linkages established between the project and the Commission). Ensuring that projects 'hit the ground running' (not the case for the SWIOFP and perhaps the main reason why objectives were not fully achieved) is critical in ultimately achieving their stated objectives; and
- Having project outcomes that are highly relevant to the needs of project stakeholders/participants, as was the case for SWIOFP, is likely to result in strong stakeholder support for the project, and increase the likelihood of stakeholder buy-in and motivation in achieving a project's objectives.

# Annex 6. List of Supporting Documents

ASCLME/SWIOFP 2012, Transboundary Diagnostic Analysis for the Western Indian Ocean. Volume 1: Baseline, UNDP, South Africa, 12 September 2012.

ASCLME/SWIOFP 2012, Transboundary Diagnostic Analysis for the Western Indian Ocean. Volume 2: Diagnostic Analysis, UNDP, South Africa, 12 September 2012.

<u>A Strategic Action Programme for Sustainable Management of the Western Indian ocean</u> <u>Large Marine Ecosystems</u> - Building a partnership to promote the sustainable management and shared governance of WIO ecosystems for present and future generations, ASCLME/SWIOFP publication.

Harmonization of Fisheries Legislation and Assessment of the Implementation of Fisheries Management Plans and Rights-Based Management in the South West Indian Ocean, Judith Swan, October 2012.

<u>Implementation Completion Report</u>, Prepared by the Participating Countries (Comoros, Kenya, Madagascar, Mauritius, Mozambique, Reunion, Tanzania, Seychelles, South Africa), for the South West Indian Ocean Fisheries Project, March 2012, Report prepared by Graeme Macfadyen, Poseidon Consultants.

Mainstreaming Biodiversity in Fisheries Management, a Retrospective Analysis of Existing Data on Vulnerable Organisms in the South West Indian Ocean, A Specialist Report Prepared for the South West Indian Ocean Fisheries Project (SWIOFP), Edited by Rudy van der Elst, Oceanographic Research Institute, Durban, South Africa, July 2012.

<u>Regional Data Gap-Analysis for Component 2 (Crustaceans) for SWIOFP</u>, J.C. Groeneveld, A.C. Cockcroft (South Africa), N.M. Dias and L. Palha de Sousa (Mozambique), C. Mwakosya and E. Ulotu (Tanzania), E. Kimani and C. Munga (Kenya), T. Rafalimanana (Madagascar), Proceedings of the Regional Workshop for Component 2 of SWIOFP, 20th – 22th April 2009, Oeanographic Research Institute, Durban, South Africa, 15th October, 2009.

<u>Regional Data Gap-analysis for Component 3 (Demersal Fisheries) for SWIOFP</u>, prepared by S. Fennessy, Oceanographic Research Institute, Durban, South Africa, December 2009.

<u>Regional Data Gap-analysis for Component 4 (Pelagic Fishes) for SWIOFP</u>, Vincent Lucas (Seychelles), Aboubakar Wardi (Comores), Kawol Doorunamand (Mauritius), Harilalao Zoelys Raboanarijadna (Madagascar), Pascal Bach & Renaud Pianet (France), Dorcus Sigana (Kenya), Hakimu Matola (Tanzania), Barbara Palha De Sousa (Mozambique), Johan Groeneveld (South Africa), Proceedings of the Regional Workshop for Component 4 of SWIOFP, 10th – 12th August 2009, Seychelles Fishing Authority, Victoria, Seychelles, December 2009.

<u>Regional Data Gap-Analysis for Component 5 - Mainstreaming biodiversity in national and</u> <u>regional fisheries management – Draft 2,</u> Contributors: R.P. van der Elst (facilitator); M.D. Hurbungs and V.S. Soondron (Mauritius); P. Santana Afonso (Mozambique); C. Mlewa (Kenya); B. Kamardine (Comoros); H. Razafindrainibe (Madagascar); R. Crawford (South Africa); J. Bourjea and J. Kiszka (France); G.K. Yona (Tanzania) and R. Payet and R.A. Quatre (Seychelles), (2010).

Bycatch Assessment of Vulnerable Megafauna in Coastal Artisanal Fisheries in the South West Indian Ocean, Final report to the South West Indian Ocean Fisheries Project (SWIOFP), Jeremy Kiszka, May 2012.

<u>Retrospective Analysis of Existing Data on Deep-water Trap-fisheries for Crustaceans</u> <u>in the South West Indian Ocean</u>, edited by Johan Groeneveld, Oceanographic Research Institute, Durban, South Africa, 30th March 2012.

<u>Retrospective Analysis of Existing Data on Deep-water Trawl Fisheries for Crustaceans in the South West Indian Ocean</u>, Specialist Report Prepared for the South West Indian Ocean Fisheries Project, Edited by Johan Groeneveld, Oceanographic Research Institute, Durban, South Africa, March 30, 2012.

<u>Retrospective Analysis for Shallow-Water Crustaceans in the South West Indian Ocean</u>, Specialist Report prepared for the South West Indian Ocean Fisheries Project, compiled by Sean Fennessy, Ocean Research Institute, Durban, South Africa, [date?].

<u>Retrospective Analysis of Demersal Fisheries Resources in the South West Indian Ocean</u>, Sherry Heileman, PhD, December 2012.

<u>Retrospective Analysis of Pelagic Fishes in the South West Indian Ocean</u>, K.L. Cochrane and D.W. Japp, Capricorn Fisheries Monitoring cc, Cape Town, November 23, 2012.