



**PROJECT EXECUTIVE SUMMARY
GEF COUNCIL INTERSESSIONAL WORK PROGRAM SUBMISSION**

AGENCY'S PROJECT ID: P0 72202
GEFSEC PROJECT ID: 1082
COUNTRIES: REGIONAL: Comoros, Kenya, Mauritius, Mozambique, Seychelles, South Africa, and United Republic of Tanzania
PROJECT TITLE: Southwest Indian Ocean Fisheries Project
GEF AGENCY: World Bank
OTHER EXECUTING AGENCY(IES): UNDP (ASCLMES PROJECT), UNEP (WIO-LAB)
DURATION: 5 years
GEF FOCAL AREA: International Waters
GEF OPERATIONAL PROGRAMS: OP#8 – International Waters – Waterbody-based; and OP#2 - Coastal, Marine and Freshwater Ecosystems
GEF STRATEGIC PRIORITY: *IW SP#2* – Expand coverage with foundational capacity building and targeted learning; and *BD SP#2*-Mainstreaming biodiversity in the production seascape and sector
PIPELINE ENTRY DATE: OP#8: APRIL 2001
ESTIMATED STARTING DATE: February 1, 2006

FINANCING PLAN (US\$)	
GEF PROJECT/COMPONENT	
Project Comprising-	12,000,000
1) <i>IW Focal Area</i>	\$9,000,000
2) <i>Biodiversity Focal Area</i>	\$3,000,000
PDF A	25,000
PDF B	700,000
<i>Sub-Total GEF</i>	12,725,000
CO-FINANCING	
Government contributions	2,600,000
FAO	250,000
Norway (research vessel)	3,000,000
South Africa, Seychelles, Tanzania, Mauritius (contribute to cost of research vessels)	4,000,000
France-GEF	1,000,000
Other bi-lateral financing	12,100,000
<i>Sub-Total Co-financing:</i>	22,950,000
<i>Total Project Financing (including PDFs):</i>	35,675,000

CONTRIBUTION TO KEY INDICATORS OF THE BUSINESS PLAN:

- Enabling the fisheries managers and strengthened fisheries institutions to implement ecosystem-based, sustainable fisheries management consistent with the WSSD targets. Project outputs will contribute to the fisheries management-related portion of the joint regional Agulhas and Somali Currents TDA's and SAP's, driven by UNDP and with additional input from the ASCLMEs and WIO-Lab Projects, and adopted by all eight participating countries.
- Production of a sustainable fisheries management framework leveraged onto the agenda of regional fisheries management bodies that include biodiversity conservation as an underlying principle.

RECORD OF ENDORSEMENT ON BEHALF OF THE GOVERNMENT:

See GEF Focal Point endorsement letters from:

Comoros (3/15/05), Chief of Environment Deptt., Ali Abdallah Fatouma	Seychelles (10/14/04), Principal Secretary, Sylvestre Radegonde
Mauritius (4/15/05), Director, Wong So Guy,	South Africa (6/14/05), C. Augustyn
Tanzania (4/19/05), Permanent Secretary, S.Odunga	Mozambique (7/14/2005), National Director, Joaquim Russo de
Kenya (2/23/05), Eng David N. Stower	

Approved on behalf of the *World Bank*. This proposal has been prepared in accordance with GEF policies and procedures and meets the standards of the GEF Project Review Criteria for work program inclusion

Steve Gorman
 Executive Coordinator, The World Bank
 Date: July 20, 2005

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1. PROJECT SUMMARY

Rationale

The West Indian Ocean (WIO), which is one of the world's largest marine environments, is the site of some of the most dynamic and variable large marine ecosystems (LMEs) in the world. The WIO accounts for some 8% of total marine waters, at 30 million square kilometers. Significantly, close to half the world's population resides in countries that edge on it. The challenges of meeting expectations and demands in this region are enormous, especially in times of drought, climate change and unsettled socio-economic conditions. This is especially true for the Southwest Indian Ocean (for more information on the region, see Annex 1 and Section A.1 of the Project Brief).

The Southwest Indian Ocean (SWIO) is considered a distinct biogeographical province of the Indo-West Pacific, with high levels of regional endemism. Although waters of the region are considered oligotrophic, with relatively low fish biomass, there is significant diversity among fish species. The region has a high diversity of "charismatic" species, including at least 20 species of cetaceans, five species of marine turtles, numerous seabirds, and an important remnant population of the threatened dugong. In addition to living marine resources, the marine and coastal ecosystems provide valuable environmental services in the form of food sources, fish spawning and rearing areas, and wave buffers. Nevertheless, the SWIO's marine and coastal ecosystems are under threat from both anthropogenic and environmental sources. Primary anthropogenic threats include overexploitation of marine resources, land-based sources of pollution, and other human-induced sources of habitat degradation from economic activity, fisheries, encroachment and climate change. Additionally, lack of institutional and human capacity and poor regional collaboration prevent wise management of marine biological resources, especially trans-boundary species and stocks (for more information on threats, see Annex 18 in the Project Brief). Fisheries of the SWIO are already being exploited by distant fishing nations and this is very likely to continue and expand as time and other fisheries resources become fully or over exploited. Countries in the region are issuing "rights of access" to fishing vessels that target straddling and migratory fish stocks and without a shared approach to exploitation of these sensitive resources, based on scientific fact, the chances of long term sustainable exploitation are minimal.

The geographic focus of SWIOFP is the Agulhas and Somali Currents LMEs. The Agulhas Current Large Marine Ecosystem (ACLME) stretches from the north end of the Mozambique Channel to Cape Agulhas and is characterized by the swift, warm Agulhas current, a western boundary current that forms part of the anticyclonic Indian Ocean gyre. The Somali Current Large Marine Ecosystem (SCLME) extends from the Comoros Islands and the northern tip of Madagascar up to the Horn of Africa. It is characterized by the monsoon-dominated Somali current, which has a strong, northerly flow during the summer, but reverses its flow in the winter. These two LMEs are both complex and interactive, and are strongly influenced by the South Equatorial Current, which is funneled across the Mascarene Plateau east of Madagascar before diverging north and south to become components of the Agulhas and Somali Currents. These LMEs are characterized by a dynamic system of ocean currents and upwelling cells, which regulate climate and influence weather patterns, sea temperatures, water chemistry, productivity, biodiversity and fisheries. They also represent an important repository of living marine resources, which underpin the livelihoods of coastal communities in 10 countries and territories.

Overview of the Proposed GEF Interventions

Determination of how to sustainably use natural resources requires, amongst other things, an understanding of the ecosystem from which the targeted resource is extracted. This ecosystem-based approach helps to more fully identify direct risks of resource depletion and the indirect impacts of

resource use on "non-target" species within the ecosystem. Over fishing, particularly, has caused well documented impacts associated with reduction in species diversity, reducing genetic variability within a species, and threatening the survival of fish and non-fish species subjected to commercial fishing. Environmentally friendly exploitation of marine fisheries is particularly difficult when a regionally shared resource is involved and one country's use could impair beneficial management of that resource by others.

The 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) is seeking support under both of these focal areas in the development of a sustainable, biodiversity-friendly, model for management of regionally shared fish stocks that will be implemented through national legislation and policy and regionally through existing international and regional organizations and through regionally executed baseline surveys and monitoring activities.**

The Large Marine Ecosystem (LME)¹ approach has been developed through international collaboration as a tool for enabling ecosystem-based management and to provide a collaborative approach to management of resources within ecologically bounded transnational areas. Although the processes and ecosystem functions related to these two LMEs have a major influence on the societies and economies of the area, very little detailed information is available upon which to base effective, cooperative transboundary management initiatives. The management of marine resources is currently sectoral and country-based. The main barriers to the development of an ecosystem approach to transboundary management include inadequate data, lack of regionally based and coordinated monitoring and information systems, lack of national and regional capacity, and the absence of full stakeholder involvement. It is impossible, under this situation for governments to manage fisheries and other marine resources in the absence of an understanding of the ocean-atmosphere, trophic and biogeochemical dynamics that characterize the LMEs.

Therefore there is a clear need for an effective assessment process to capture the requisite data to fill important gaps in information for management purposes. This project aims to replicate the successful approach used by the Benguela Current LME (BCLME) project wherein the presence of BENEFIT (the Benguela Environment Fisheries Interaction and Training Program) was instrumental in providing much of the requisite scientific data and information necessary to the development of a TDA and subsequently focused the SAP which will now be used for regional management of the BCLME. The project will not only move the countries of the region toward an important WSSD target i.e. an ecosystem based approach to management of the LMEs, it will also help to achieve other WSSD targets including strengthened regional cooperation frameworks, and the maintenance or restoration of fish stocks on an urgent basis, and where possible by 2015.

SWIOFP is one of three linked projects that utilize this methodology to address resource management in two separate LMEs in the Southwest Indian Ocean (SWIO). The core project is the Agulhas and Somali Currents Large Marine Ecosystems Project (ASCLMEs) implemented by the UNDP. The ASCLMEs Project, along with the associated Western Indian Ocean Land Based Impacts on the Marine Environment Project (WIO-LaB) implemented by UNEP, will provide the descriptive information about the targeted LMEs to SWIOFP. SWIOFP will use these data to enable development of a long-term, environmentally sustainable, management strategy for offshore exploited fish stocks that will also preserve marine

¹ In this document, the term LME is equivalent to the term "seascape" used as a study area "marker" for the OP2 focal area. The two LMEs (or seascapes) cover a production area used mainly by distant fishing nations of about 6.3 million km²

biodiversity and the biodiversity of other species that are incidentally impacted by commercial fishing. (Table 1).

Table 1 Inter-relations between the three ASCLMEs Projects

Module	Project
Productivity	ASCLMEs Project
Ecosystem health & pollution	WIO-LaB/ASCLMEs
Fisheries	SWIOFP/ASCLMEs (Near-shore)
Management and governance	SWIOFP/ASCLMEs/WIO-LaB
Socio-economics	ASCLMEs Project / WIO-LaB / SWIOFP

The following Project Brief describes how SWIOFP will link the ASCLMEs and WIO-LaB Projects to identify: i) fish stocks that are most sensitive to anthropogenic impacts and environmental variability; ii) a set of prioritized issues that countries riparian to these two LME's would need to address to ensure sustainable utilization of these resources and to institutionalize conservation of biodiversity within the LMEs, and; iii) how each country will respond to these issues individually and collectively to address it's responsibility to sustainably manage these shared fisheries.

Objectives

The project has three **development objectives**:

- (i) *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.*
- (ii) *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;*
- (iii) *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;*
- (iv) *To mainstream biodiversity in national fisheries management policy and legislation, and through national participation in regional organizations that promote sustainable exploitation of fisheries resources..*

The project's common **global objective (OP8 and OP2)** is:

To promote the environmentally sustainable use of fish resources through adoption by SWIO-riparian countries of an LME-based ecosystem approach to fisheries management in the Agulhas and Somali LMEs that recognizes the importance of preserving biodiversity.

The overall programmatic Global objective (combined ASCLMEs, SWIOFP and WIO-LaB Projects) is:

To ensure the long term sustainability of the living resources of the ASCLMEs through an ecosystem-based approach to fisheries management

Outputs, Outcomes and Activities

The primary Project output will be to input the fisheries issues and corresponding national management responses into the Transboundary Diagnostic Analysis (TDA) and Strategic Action Program (SAP) for overall management of the natural resources of the Agulhas and Somali Currents LMEs (which will be driven by the ASCLMEs Project). These will define how each of the SWIOFP countries propose individually and collectively to address any transboundary issues identified. And particularly how each country intends to mainstream biodiversity conservation in deep sea fishing authorities, fisheries management legislation and policy, and through participation in regional fisheries organizations. The

project has been organized into seven components as summarized below (see also table 2). More details on the components can be found in the GEF Project Brief Annex 4 and Section B, and in Annex B of this Executive Summary.

Table 2. Component Financing Summary (US\$)

	Component	Total GEF Alternative	Total GEF Incremental	GEF Actual OP8 & OP2
1	Data gap analysis, data archiving and information technology	6.89	4.61	2.4
2	Assessment and sustainable utilization of crustaceans	21.83	7.73	3.0
3	Assessment and sustainable utilization of demersal fishes	22.62	8.1	3.0
4	Assessment and sustainable utilization of pelagic fish	43.03	3.8	1.0
5	Monitoring of fishing effort and catch, existing value, and exploitation conflicts	33.96	4.17	1.0
6	Mainstreaming biodiversity in national and regional fisheries management	7.5	2.25	.05*
7	Strengthening regional and national fisheries management	9.96	4.45	1.1
		145.79	35.11	12.0

(*US\$ 3 million has been earmarked for funding under the biodiversity focal area. The total GEF costs for Biodiversity related activities are spread under components 1,2 ,3 & 4 and are estimated at US\$ 2.5 million. Therefore the total GEF incremental cost for Biodiversity adds up to US\$ 3 million (2.5+.05))

Component 1: Data gap analysis, data archiving and information technology

Total GEF Alternative component cost: US\$ 4.61 million, out of which GEF financing US\$ 2.4 million

Lead Country: PMU-designated country

This component will establish a regional data management system managed by staff of the Regional Coordination Unit (with skills specific to this task) to underpin management of regional fisheries and undertake a gap analysis to identify the specific activities to be supported by the project. This regional database created during the first year of the Project will continue to operate and service the participating and observer countries in SWIOFP, expanding the database with new information from the SWIOFP ship cruises and other relevant data from projects in the SWIO. A data atlas that will be created will compile national, regional and repatriated data as possible that are relevant to SWIO fisheries. The following sub-components and activities are planned under Component 1: The assessment of the amount and species diversity of by-catch will be an important element of components 2 (crustacean and other invertebrate fisheries), 3 (demersal fisheries), and 4 (pelagic fisheries). The project database will include fields for existing data describing by-catch, and provision for information from Project-leased and commercial vessels (that have Project observers onboard).

Subcomponent 1.1: Fisheries data collection and evaluation

Activities include: 1). Review and evaluation of key national datasets of fish and fisheries; 2) Sourcing of published information on SWIO from peer-reviewed journals, grey literature, conference proceedings and FAO manuals; 3) Repatriation and evaluation of data from national academic and research institutions, international scientific surveys, programs and commissions; 4) Repatriation and evaluation of data from selected foreign fishing companies; 5) Sourcing and description of unconventional and outdated data held in formats that are incompatible with modern operating systems and software, including non-digitized raw data and; 6) Inter-calibration of national and historic data sets.

Subcomponent 1.2: Compiling of a data atlas for SWIOFP

Activities include: 1) Indexing and storage of data; 2) Assessing the quality of the various data types, and their compatibility; 3) Gap analysis to determine projects to be supported by SWIOFP and; 4) Valuation of data to serve as an in-kind contribution from member countries to SWIOFP.

Subcomponent 1.3: Establishment of Information Technology, data handling and communications systems

Activities include: 1) Upgrading and/or procurement of national IT and communications infrastructure; 2) Training of skilled manpower for data handling; 3) New data handling and 4) Review of existing database systems for adoption by SWIOFP.

There is also a shared activity with ASCLME under this subcomponent. SWIOFP, in close cooperation with ASCLMEs aims at building the capacity among transboundary water resource projects worldwide through Internet-based applications, networking within a community of practice, and knowledge management. The information systems and networking initiatives planned through the ASCLMEs (with SWIOFP input) will be closely tied to IW Learn information systems. Provision is made for south-south knowledge transfer, which would benefit from the IW Learn network, and the participation of project stakeholders in IW Learn sponsored conventions, including the biennial GEF IW Conference². SWIOFP and the ASCLMEs share the person responsible for overseeing this activity (the data and information systems specialist for both projects), but the specialist will be within the ASCLME coordination office in South Africa.

This office will implement a Distance Learning and Information Sharing Tool (DLIST) which will provide a web based platform for disseminating information on marine and coastal management issues to a broad array of stakeholders (particularly at the local level). The system will engender a two-way flow of information from end users of information to data providers and vice versa, ensuring that it is demand driven and country-cleared fisheries information from SWIOFP will be made available through this system. This initiative is compatible and follows guidelines of the IW LEARN program (the International Waters Learning Exchange and Resource Network)

The outputs/outcomes for Component 1 will be:

- An analysis at national and then at a regional level of data relevant to components and the countries that will participate in them to identify specific gaps in existing knowledge that would allow the participants in each component to identify detailed data collection programs to be facilitated by SWIOFP; and
- A workshop consisting of all SWIOFP countries at which a conceptual, harmonized, baseline data collection program and data sharing protocols will be established to enable regional evaluation of the harmonized, ecosystem-based management of fisheries resources promoted by SWIOFP will be finalized

GEF OP2 funding will specifically lead to a Database will include fields for existing data describing by-catch (amount and species diversity).

Component 2: Assessment and sustainable utilization of crustaceans

Total GEF Alternative component cost: US\$ 7.73 million, out of which GEF financing US\$ 3.0 million

Lead Country: South Africa

² A minimum of US\$150,000 is earmarked in the SWIOFP budget to allow relevant staff and managers to participate in biennial GEF IW and biodiversity conferences, and to produce project related information for presentation

This component will undertake an assessment of the stock dynamics of shallow and deep water crustaceans and their fisheries. Using ship-based surveys, baseline assessment of crustacean stocks and fisheries will be undertaken in the EEZs of Kenya, Tanzania, Mozambique, South Africa, Seychelles and Madagascar. The following sub-components and activities are planned under Component 2:

Subcomponent 2.1: Deep-water crustaceans

Activities include: 1) Distribution, stock discrimination and biological reference points of key resources; 2) Ship-based surveys to assess the potential of new and existing fisheries and 3) By-catch assessment: utilization, reduction and ecosystems impacts.

Subcomponent 2.2: Shallow-water crustaceans

Activities include: 1) Distribution, stock discrimination and biological reference points of key resources; 2) Ship-based surveys to assess the potential of new and existing fisheries; 3) By-catch assessment: utilization, reduction and ecosystems impacts; 4) Impact of river run-off on prawn larval recruitment; 5) Optimization of artisanal shallow-water lobster fisheries: pilot studies.

The outputs/outcomes for Component 2 will be:

- Information identifying the current status of important species, threats matrix, and regional/sub-regional management issues and needs; and
- Preparation and adoption of country specific, regionally harmonized, approaches to management of specific fishery(ies) detailing the role of the environment and the role of anthropogenic impacts (fishing pressure, habitat change, pollution, etc) in determining the nature of the fishery, and how the participating countries will act to address both types of issues as noted by WSSD targets.

GEF OP2 funding will specifically lead to: identification of species most impacted by the commercial fishery, possible impact of the gear used on species diversity, effectiveness of existing “excluding devices” in the fishing gear, identification of opportunities for modifying fishing methods to reduce by-catch and possible use of the by-catch.

Component 3: Assessment and sustainable utilization of demersal fishes (excluding crustaceans)

Total GEF Alternative component cost: US\$ 8.1 million, out of which GEF financing US\$ 3.0 million

Lead Country: Seychelles

This component will support assessment of the stock dynamics of demersal species and their fisheries. Ship-based surveys will be used to undertake a baseline assessment of demersal stocks and fisheries and evaluate demersal fisheries by-catch, discard impacts, exclusion devices, and ecosystems impacts in the EEZs of Kenya, Tanzania, Mozambique, South Africa, Seychelles and Madagascar. The following sub-components and activities are planned under Component 3:

Subcomponent 3.1: Deep-water demersal fish

Activities include: 1) Distribution, stock discrimination and biological reference points of key resources; 2) Ship-based surveys to assess the potential of new and existing fisheries; 3) Resource assessments; 4) By-catch assessment: utilization, reduction and ecosystems impacts

Subcomponent 3.2: Shallow-water demersal fish

Activities include: 1) Distribution, stock discrimination and biological reference points of key resources; 2) Ship-based surveys to assess the potential of new and existing fisheries; 3) Resource assessments; 4) By-catch assessment: utilization, reduction and ecosystems impacts.

The outputs/outcomes for Component 3 will be:

- An assessment of the current status of important species, threats matrix, and regional/sub-regional management issues and needs; and
- Preparation and adoption of country specific, regionally harmonized, approaches to management of specific fishery(ies) detailing the role of the environment and the role of anthropogenic impacts (fishing pressure, habitat change, pollution, etc) in determining the nature of the fishery, and how the participating countries will act to address both types of issues as noted by WSSD targets.
- GEF OP2 funding will specifically lead to: identification of species most impacted by the commercial fishery, possible impact of the gear used on species diversity, effectiveness of existing “excluding devices” in the fishing gear, identification of opportunities for modifying fishing methods to reduce by-catch and possible use of the by-catch.

Component 4: Assessment and sustainable utilization of pelagic fish

Total GEF Alternative component cost: US\$ 3.8 million, out of which GEF financing US\$ 1.0 million

Lead Country: Tanzania

This component will 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). Activities will include ship-based surveys to assess the potential of new and existing pelagic fisheries, studies on migration and movement of selected large pelagic species (including sharks), and study on optimization and development of FADs for large and small scale pelagic fisheries. This component is specifically designed to incrementally strengthen (using archival pop-up and sonic tags that track horizontal and vertical movement of specific fish) the Tuna Tagging Program and other relevant projects of the Indian Ocean Tuna Commission (IOTC) rather than developing “stand alone” activities. This will be accomplished by harmonizing SWIOFP activities with the IOTC and by focusing on activities related to smaller-scale pelagic fisheries. SWIOFP linkages with IOTC programs will also help leverage input of IOTC recommendations into regional ecosystem-based management plans to come from SWIOFP. The following sub-components and activities are planned under Component 4:

Subcomponent 4.1: Large pelagic species

Activities include: 1) Gear optimization and development of Fish Aggregating Devices (FADs); 2) Migration and movement of large pelagics.

Subcomponent 4.2: Small pelagic species

Activities include: 1) Distribution, stock discrimination and biological reference points of key resources; 2) Surveys to assess the potential of new and existing fisheries; 3) Resource assessments and, 4) Gear optimization and development of FADs.

Subcomponent 4.3: Super-small pelagic species

Activities include: 1) Distribution, stock discrimination and biological reference points of key resources; 2) Surveys to assess the potential of new and existing fisheries; 3) Resource assessments

The outputs/outcomes for Component 4 will be:

- Assessment of the current status of important species, threats matrix, and regional/sub-regional management issues and needs; and
- Preparation and adoption of country specific, regionally harmonized, approaches to management of specific fishery(ies) detailing the role of the environment and the role of anthropogenic impacts (fishing pressure, habitat change, pollution, etc) in determining the nature of the fishery, and how the participating countries will act to address both types of issues as noted by WSSD targets .

GEF OP2 funding will specifically lead to: identification of species most impacted by the commercial fishery, possible impact of the gear used on species diversity, effectiveness of existing “excluding

devices” in the fishing gear, identification of opportunities for modifying fishing methods to reduce by-catch and possible use of the by-catch.

Component 5: Monitoring of fishing effort and catch, existing value, and exploitation conflicts

Total GEF Alternative component cost: US\$ 4.17 million, out of which GEF financing US\$ 1 million

Lead Country: Madagascar

This component will build capacity for regional management by developing and testing fisheries monitoring techniques. The component will support training of scientific observers at sea; monitoring of commercial landings and establishment of land-based monitoring and data verification systems; linkage of communication infrastructure; and development of coordination mechanisms and verification systems to establish a regional Vessel Monitoring System. It will also support an assessment of the financial value of exploited fisheries and use conflicts that might exist because of exploitation. The following sub-components and activities are planned under Component 5:

Subcomponent 5.1: Monitoring

Activities include: 1) Observer-based monitoring at sea and 2) Discharge monitoring program linked with the GEF Marine Electronic Highways Project.

Subcomponent 5.2: Surveillance

Activities include: 1) Aerial survey to identify and document specific fishing operations and 2) Development and implementation of regional VMS program.

Subcomponent 5.3: Socio-economics and marketing.

Activities include: 1) Development of an understanding of market forces that both impact and potentially enhance fisheries returns and 2) Use of such information to guide management and maximize benefits from fisheries.

Subcomponent 5.4: Conflict resolution

Using a multidisciplinary approach combining fisheries and biological assessments, socio-economic understanding, economic expertise and negotiating skills, this sub-component will facilitate resolution of fisheries user-conflicts between local industrial and artisanal fishermen and foreign fishing fleets operating in the SWIO.

Subcomponent 5.5: Ensure sustainable benefits for member countries and their people

Activities include: 1) Development of an understanding of the social needs and structures of national stakeholder groups exploiting marine resources and 2) Use of such information to guide management and maximize benefits from fisheries.

The outputs/outcomes for Component 5 will be:

- A contribution to the overall Project output leading to agreements between countries sharing fishery resources that improve harmonized MCS actions; and
- Agreements between countries that each will recognize the importance of regional pressure and the need to consult as a precursor to setting exploitation limits on a fishery (particularly regarding licensing of foreign fishing fleet access to its 200 mile EEZ). Likewise, regional harmonization of management should address the environmental impact on the fishery, as changes in the ecosystem related to transitory or evolutionary changes associated with natural cyclic events and global anthropogenic impacts such as climate change may both require modification of exploitation limits.

Component 6: Mainstreaming biodiversity in national and regional fisheries management

Total GEF Alternative component cost: US\$ 2.25 million, out of which GEF financing US\$ 0.5 (Biodiversity activities spread under components 1, 2, 3 and 4 add upto a total of US\$2.5 million.

Therefore the total cost for Biodiversity activities consolidated under this component (for clarity) is US\$ 3 million. All elements of SWIOFP to be financed under the Biodiversity Focal Area are described in this Component for clarity, even if disbursement during Project implementation will be through components 2,3 , 4 or 6.)

Lead Country: Mauritius

Is biodiversity important and are there reasons to take concerted action to protect it in these two LMEs?

One of the most valuable assets of the West Indian Ocean region is its high biodiversity. 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 having been identified. This biodiversity underpins many of the fisheries and provides opportunities for future potential sources of food and other natural products. However, it also introduces elements of risk, in that greater ecological complexity complicates an ecosystem approach to resource management. This is especially true considering the great diversity of fishery types (more than 163 described) and the high incidence of non-target by-catch in many of these.

There are several relationships between fisheries in the SWIOFP study region and its biodiversity. Some of these are direct, such as those fisheries that have a high by-catch or those where the gear impacts adversely on the environment and its biota. There are also indirect impacts, for example, where natural processes are impeded. Thus, the removal of top predators in a fishery (such as the growing shark fin fishery) can result in cascading ecological effects, already demonstrated in some regions. Similarly, depletion of one species could benefit a close competitor species that may be of less economic value. There appears to be a unique situation with bi-polar distribution of some stocks of lobster and fish, found only in the Somali and KwaZulu-Natal region. The genetic relationship between these populations needs to be understood. Also of consequence is the relationship between inshore and offshore populations of fish, and hence biodiversity. In the case of several important species, part of the life cycle (spawning and juvenile rearing) occurs inshore, with adults moving to offshore regions. Several species of shark, the larger mackerels and some smaller tuna display this behavior. Lack of understanding of this relationship could compromise overall management of an exploited stock and in some cases threaten species survival locally and regionally.

The fishery of the SWIO region includes a greater diversity of species, often at lower commercial capture tonnage, than in West Africa. Although the region provides greater diversity of opportunities, because of lower primary productivity there is also a greater sensitivity to fishing pressure and a corresponding need for close cooperation between nations in managing shared fish stocks.

Why a biodiversity component in SWIOFP?

If protection of marine and related biodiversity is to be a sustainable undertaking in the Agulhas and Somali Currents LMEs it must be integrated into national management of offshore fisheries resources, and receive long-term support by riparian nations and their donors.

It is difficult for two or more countries that share a fishery to work together to ensure that exploitation is sustainable. It is even more difficult for the nations that “own” the resource to equitably share the value and cost of management of the resource, and to work together to ensure that exploitation does not cause impacts on non-target assets that would reduce the overall benefit exploitation. The individual nations of the SWIO that rely directly or indirectly (licensing of fishing vessels from distant fishing nations) on offshore fishing are concerned about by-catch issues, unintentional capture of marine mammals, sea birds , sea turtles and other marine life and attempted to identify solutions. Unfortunately, most countries of the SWIO do not have the resources to adequately address these issues. And at least half of the countries in SWIOFP have

no capacity to research or manage fisheries impacts (caused by licensed and unlicensed foreign fishing vessels) on non-target species.

This component is actually “cross cutting” and will be implemented through this and Components 2 (crustacean fisheries), 3 (demersal fisheries) and 4 (pelagic fisheries). As funding for these biodiversity-oriented activities will be supported under the Biodiversity Focal Area (OP2), the description of what will occur in all components, why these activities have been included in the Project, and what the Project and long-term objectives are will be consolidated and presented in this Component.

The majority of fish species currently commercially exploited in the SWIO LME’s have distributions that straddles or migrate through the 200 mile EEZs of two or more countries. If a country has a history of exploiting, or licensing a foreign fishing vessel, to exploit an offshore fishery, it is likely that it will be spending at least some resources on managing impacts on non-target fish and non-fish species.

How does commercial fishing impact on biodiversity in the SWIO?

In the SWIO the primary fisheries include longlining and purse seining for large pelagic species and bottom trawling for crustaceans and demersal fish. In other large marine ecosystems longlining has been shown to impact on many species. Incidental catches of seabirds on longlines is a major concern, particularly mortality of albatrosses and petrels where it has been shown, that without appropriate mitigation methods, populations of some species are seriously threatened. Similarly the incidental catch of turtles on longlines is a serious concern as mortality rates are also high. Tuna purse seiners also have incidental catches of dolphins and other small cetaceans. Trawling also affects many of the same species. Trawl warps are known to result in the death of many bird species foraging in or near trawl operations, and nets frequently incidentally trap seals, dolphins, turtles and other non-consumptive species.

Ultimately the loss of these species will not only impact the diversity of the SWIO, but also on the potential livelihoods of the riparian communities who benefit from healthy populations of these species.

Non-targeted bycatch also is a worldwide concern, but is an issue that to date has not been appropriately addressed in the fisheries of the SWIO. Of particular concern is the bycatch of chondrichthyans. Fishing nations are obligated to comply with the FAO Code of Conduct on Fisheries, which includes the management of bycatch and discard species. Further, fishing nations are also obligated to develop National Plans of Action for their chondrichthyan resources. These NPOA’s should address shark bycatch on longlines, finning and discarding.

Other concerns relate to the interactions between mammals and fishing gear (depradation). In many longline fisheries, killer whales, sperm whales and seals remove large quantities of commercially valuable fish caught on longlines and introduce mortality effects on target species that are difficult to quantify, thus increasing the variability of resource assessments.

The impacts on and interactions between non-consumptive species and non-target species with commercial fisheries will be addressed in all facets of the SWIOFP. In Components 1 and 2 the state of knowledge of the non-consumptive species worldwide and specifically in the SWIO, shall be collated in the data atlas to establish a baseline for the SWIOFP so that appropriate mitigation methods can be investigated. Within each of the specific SWIOFP Fishery Components, either existing knowledge or new methodology will be investigated through the training and deployment of specialist Observers in the SWIOFP survey program. Specialist research activities will be invited from a spectrum of interested and affected parties, including universities and Non Government Organizations. As many of the species in question are also apex predators, they frequently provide clues as to ecosystem health. For example, bird

and whale populations may mirror the distribution and abundance of small pelagic fishes. Accordingly, it is planned that Component 6 will focus on identification of such resources and their potential relationship with WIO fisheries development and ecosystem health.

How will SWIOFP establish the groundwork for a regional strategy to preserve biodiversity in the SWIO?

The SWIOFP approach will include specific activities that lead to an understanding of the overall relationships between fisheries and biodiversity processes and species diversity and how these relationships can be managed at the national and regional levels. Typical examples will include:

- A regional approach to by-catch assessment and reduction in all fishery types
- Identification of biodiversity “hotspot” issues, such as spawning aggregations and nursery areas
- Understanding the possible impacts of fisheries on seed populations, larval transport.
- Ecological implications of selective removal of target species, such as top predatory sharks
- Identification and understanding of the inshore/offshore dynamics of several key commercially valuable species and associated biodiversity
- Potential impact of changes in fishing technology, including Fads.

Without an improved understanding of the relationship between fisheries in the SWIOFP region and the associated biodiversity, any future decision support of fishery development could be flawed and compromised. While it is recognized that such topics are often difficult to investigate, this is no reasons to ignore their probable implications on long term sustainable fishery development and an ecosystem approach.

This component will undertake an assessment of the interaction between non-commercial marine resources (such as sea-birds, turtles and other species) and commercial fisheries. Studies will be funded out of a grant fund and would generate a baseline assessment, GIS mapping of key species, assessments of marine biodiversity as alternative sources of income and identification of bio-indicator species and relationships between target species and ecosystem health. The following sub-components and activities are planned under Component 6:

Subcomponent 6.1 Assessment of the state of knowledge of non-consumptive resources and marine biodiversity within the SWIOFP for inclusion in the Data Atlas

It is virtually impossible to undertake a detailed design of a biodiversity component until existing data are collected, processed and discussed on a regional basis to identify a program within SWIOFP to describe biodiversity in the two LME’s, identify threats and possible solutions, and to develop regional and national management approaches to address the biodiversity issues identified. Unfortunately, there have been little or no efforts to collate sparse existing data into a central database for evaluation. As a result it is impossible to make more than a guess about the number and location of biodiversity hotspots and to describe the current biodiversity status in the SWIO. The biodiversity component, funded under the OP2 focal area, will include a budget of \$3 million to address. Implementation of the biodiversity component will need to proceed in three stages. These are:

Stage 1: As part of the data gap analysis described in Component 1, all existing data from the region and repatriation of data from overseas public and private institutions describing biodiversity in the two LME’s will be collected and stored in a regional database (integrated with the regional fisheries database). As these data will be incremental to the fisheries information to be collected, no OP2 support is needed;

Stage 2: Once these biodiversity data are available to all countries, a regional biodiversity component coordination meeting will be called by Mauritius (the coordinating country for biodiversity in SWIOFP).. This meeting will prepare the detailed work plans for field data collection to be supported under the Project. These will include how the Project scientific observers will be deployed on commercial fishing boats and Project research vessels, how these data collection programs will link to data collection from other component of SWIOFP, and the ASCLMEs and the WIO-LaB Projects.

Stage 3: Implementation of the work plan for biodiversity including annual meetings to discuss finding and modify the Component (as necessary). This will culminating in a final workshop to discuss and present solutions to biodiversity preservation within national and regional fisheries management plans.

Stage 1 and 2 will require \$150,000, sourced from the \$3 million OP2 Focal Area contribution to SWIOFP. Disbursement of the remaining \$2.85 million will be dependent on production of the detailed biodiversity assessment and management response work plan to come at the end of 12 months by both the Bank and GEFSEC Monitoring Unit.

Activities Include:

- 1) Assessment of the state of knowledge of non-consumptive resources and marine biodiversity within the SWIOFP for inclusion in the Data Atlas
- 2) Identification and assessment of key non-consumptive species and ecosystem relationships that could provide potential sources of income.
- 3) Regional workshop and detailed work plan

Subcomponent 6.2 Identification, through field data collection, of key biodiversity values in the two LME's

Activities include:

- 1) Gathering of baseline information relating to fisheries interactions
- 2) Improving biological knowledge on species most impacted by fishing activities in the SWIO.
- 3) Create a database of fishery interactions based on surveys, observer data and logbook analyses.
- 4) Investigation of Mitigation methods to reduce mortality of non-consumptive species
- 5) Investigation of by-catch and by-catch reduction methods e.g. exclusion devices, fishing practices
- 6) Identification and assessment of key non-consumptive species and ecosystem relationships that could provide potential sources of income and production of a biodiversity map.

Subcomponent 6.2: Interactions with fisheries

Activities include:

- 1) Gathering of baseline information relating to fisheries interactions
- 2) Improving biological knowledge on species most impacted by fishing activities in the SWIO.
- 3) Create a database of fishery interactions based on surveys, observer data and logbook analyses.
- 4) Investigation of Mitigation methods to reduce mortality of non-consumptive species
- 5) Development, within national and regional/sub-regional fisheries management plans, an awareness of the importance and an imperative to protect the biodiversity of the Agulhas and Somali Currents LMEs. These could include no fishing zones, restrictions on fishing gears, closed seasons, size restrictions, use of excluding devices; etc.

Subcomponent 6.3: Bio-indicators of ecosystem health

This subcomponent will be shared with the ASCLMEs Project. Identification of bio-indicators of ecosystem health will need to be associated with corresponding oceanographic indicators during the TDA/SAP process. The SWIOFP also intends to tap expertise outside the government management and research agencies by inviting and funding (under competitive review) proposals from specialists in regional universities and non-government research groups that will identify possible relationships between target species and ecosystem health (bio-indicators).

The outputs/outcomes for Component 6 will be largely contributed from OP2:

- Biodiversity map; and
- Action plan detailing issues and actions related to fishery exploitation impacts on non-target species and how nations of the SWIO will manage commercial fishing impacts (production systems) on biodiversity (establishing legislation and enforcing that legislation on fishing fleet from within and outside the African region;.
- Establish an ongoing monitoring program that includes Monitoring, Control and Surveillance of Action Plan implementation and that will allow comparison of the biodiversity, ecosystem health and status of exploited fisheries against the baseline established by SWIOFP.

Component 7: Strengthening regional and national fisheries management

Total GEF Alternative component cost: US\$ 4.45 million, out of which GEF financing US\$ 1.1 million

Lead Country: PMU-designated country

This component will support the emerging regional fisheries management framework in the SWIO and build capacity in regional and national fisheries management bodies. The project will establish a working relationship and technical interface between SWIOFP and the SWIOFC, and establish a regional project management unit (PMU). The project will also assess national fisheries regulations and identify areas where harmonization is needed. The following sub-components and activities are planned under Component 7:

Subcomponent 7.1: Identification of relevant national and international legislation and other instruments relevant to the SWIOFP goal

Activities include: Documentation of legislation, protocols and guiding principles relevant to SWIOFP.

Subcomponent 7.2: Harmonization of legislation between countries

Activities include: 1) Collation of national fisheries policies and regulations from each country; 2) Identification of common and conflicting items; identify specific gaps.

Subcomponent 7.3: Development of regional resource management structures and capacity

Activities include: 1) Establishment of working relationship with the SWIOFC; 2) Support for the development of management structures and procedures through the SWIOFC; 3) Provision of technical and other support to the SWIOFC; 4) Development of a support base from participating countries to endorse the regional management initiatives.

Subcomponent 7.4: SWIOFP project administration and national and regional facilities

Activities include: 1) Development of national management capacity and infrastructure and; 2) Development of a regional management facility.

The outputs/outcomes for Component 7 will be:

- Legal agreements and memoranda of understanding between two or more SWIOFP countries facilitating regionally harmonized resource management. These agreements and regionally harmonized management plans will be for specific fisheries shared between the participating

- A stronger regional management structure for management of shared or straddling fisheries resources through leveraging ecosystem management and LME-modular approach to assessment onto the agenda of the SWIOFC and other relevant regional bodies.

Key Performance Indicators

Progress on achieving the project's **development objectives** will be measured by the following performance indicators:

- Adoption of at least one national or multi-national management plan for a specific demersal, pelagic or crustacean fishery by each country participating in the project.
- Regional fisheries database fully operational and inclusive of new and historic data, which contributes to the development of regional management plans for at least 2 fisheries
- Production of a baseline assessment (accompanied by database) that defines the current status of relevant crustacean, demersal and pelagic fisheries in each of the participating SWIOFP countries.
- Production of a sustainable fisheries management framework leveraged onto the agenda of regional fisheries management bodies that include biodiversity conservation as an underlying principle.

Progress on achieving the project's **global objective** (OP8 and OP2) will be measured by the following performance indicators:

- 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;.
- Production and adoption of at least two sub-regional management plans (including policy, institutional and legal framework) governing ecosystem-based management of specific transboundary fisheries for each of the three species categories of the project (crustacean, demersal, pelagic).
- Adoption by all SWIOFP countries of a monitoring and evaluation framework (including agreed-upon environmental status and stress reduction indicators) that defines ecosystem health within the framework of a regional management institution (possibly the SWIOF Commission) legally mandated to undertake this function.

All national fisheries management plans/strategies for shared stocks of commercially exploited or exploitable fish stocks resulting from SWIOFP will incorporate elements of biodiversity conservation (both by-catch minimization and reduction in mortality of seabirds, marine mammals, sea turtles, etc.).

SWIOFP establishes the scientific background for more sustainable exploitation of deepwater fisheries. Once the value of the offshore fishery resource is better known, it will be possible to appropriately scope an appropriate amount for a country to spend on management of these shared offshore fish stocks. SWIOFP will therefore improve both the financial returns to member countries and the "profitability" of exploitation, ultimately improving government revenues.

More details on specific indicators for each of the components listed above can be found in Annex 3 of the GEF Brief and Annex B of this Executive Summary.

Risks

The most immediate risk facing SWIOFP is the possibility that a particular country will fail to endorse the project, implement the regional management plans or allocate revenue to future sustainability. Individual countries are expected to contribute substantial manpower resources to SWIOFP. Failure to allocate and support such staffing requirements will compromise that country's ability to implement a particular component and, place aspects of SWIOFP at risk. Other substantial risks include the possibility of

uneven general performance related to variable capacity between countries and with harmonization of mutual activities. Establishment of a regional PMU to coordinate activities and a senior-level Regional Policy and Steering Committee to address issues quickly and efficiently, as well as peer pressure by other member countries, should serve to mitigate any performance risks. Another substantial risk is that delivery capacity will be constrained as a result of the non-availability of qualified staff. The project will seek to mitigate this risk with targeted capacity-building and training programs.

There is also a modest risk that problems with flow of funds may arise as a result of one or more countries failing to account for expenditures in a timely manner. The project plans to minimize this possibility by assigning responsibility for control of the Project Special Account to the regional Project Management Unit. Should one country fail to be financially accountable, a Project-based response, representative of all nine countries in SWIOFP, would be added to official Bank supervision pressure. In addition, peer pressure has been shown to be a powerful management tool in other regional projects. Integration difficulties with the ASCLMEs Project Components led by UNDP and UNEP also pose a modest risk, although the close links with WIO LaB and the ASCLMEs Project in on-the-ground management through regional institutions should help to mitigate this risk. A third modest risk comes from the possibility that parallel activities in Tanzania through the Marine and Coastal Environmental Management Project (MACEMP) that will support both MACEMP and SWIOFP management will fail to be realized. The project plans to mitigate this risk by financing national management of SWIOFP in Tanzania largely through MACEMP. Greater details are provided in the Section C.5 of the Project Brief.

Finally, the Project is designed to strengthen the regional management of deepwater fisheries through support to the SWIOFC. There is some risk that this organization may decide it doesn't want or need assistance by SWIOFP or that it is not able to assume a "management role" for the Project. Although this is unlikely to occur, the Project includes funds to allow staff from participating government fisheries organizations to attend SWIOFC meetings and to provide technical information about interim and final results of the various SWIOFP activities.

2. COUNTRY OWNERSHIP

Country Eligibility

All eight countries that are part of SWIOFP are eligible for World Bank and GEF funding. All are signatories to the International Law of the Seas Convention and the Convention of Biodiversity (see Table 3 below).

Table 3: Dates of Accession/ ratification

SWIOFP Participating Country	Date of Signing/Declaration Law of the Seas Convention	Date of Signing of Convention of Biodiversity
1. Kenya	March 2, 1985	June 11,1992
2. Tanzania (declaration)	September 3, 1985	June 12,1992
3. Mozambique	March 13, 1997	June 12,1992
4. South Africa (declaration)	December 23, 1997	June 04,1992
5. Comoros	June 21, 1994	June 11,1992
6. Madagascar	August 22, 2001	June 08,1992
7. Seychelles	September 16, 1991	June 10,1992
8. Mauritius	November 4, 1994	June 10,1992

Country Driveness

The SWIOFP is part of an overall ecosystem-based system of marine resource management for the Southwest Indian Ocean, developed collaboratively by the countries that are participating in this project. The project is also clearly linked to the various National Development Plans, strategies and legislations

within the participating countries (for more information on national strategies, see Annex 1 in the Project Brief):

- **Kenya:** SWIOFP contributes to the objectives of the 2003/2004 National Economic Recovery Plan (ERP), which include increasing economic growth through sustainable management of resources. It also complements the Government of Kenya's on-going fisheries management initiatives and objectives.
- **Tanzania:** The project contributes to the Government of Tanzania's policy to exploit fishery resources in a sustainable manner in order to enhance food security and create employment for local populations. It also meets objectives recently elaborated in coastal and marine management strategies to improve coastal management, increase co-management and community involvement, and expand the networks of MPAs.
- **Mozambique:** SWIOFP promotes the Government of Mozambique's overall national fisheries management goal of ensuring the preservation of fishery resources while maximizing economic income for the country, and will help improve the knowledge base that underpins national fisheries regulation by providing more information for the Government's existing system of fishing quotas. SWIOFP will also complement national efforts to promote the involvement of the coastal communities in the exploitation and management of living aquatic stocks.
- **South Africa:** SWIOFP supports South Africa's 1998 Marine Living Resources Act, which provides for the conservation of the marine ecosystem, the long-term sustainable use of marine living resources and the orderly access to exploitation, utilization and protection of certain marine living resources. The project also complements national efforts to assess vulnerable stocks and designate Marine Protected Areas (MPAs) for the purposes of scientific study, experimental fishing or conservation.
- **Madagascar:** SWIOFP will contribute to the Government of Madagascar's overall goals of national fisheries management, which are improving rural livelihoods, food security and exports, fighting poverty and creating employment. The project also supports national efforts to establish a management system based on analysis of sustainable catch, and complements efforts to renew overexploited stocks and monitor fishing pressure.

3. GEF PROGRAM AND POLICY CONFORMITY

Fit to GEF Operational Program and Strategic Priority

SWIOFP Compliance to Priorities within GEF OP#8: International Waters

SWIOFP is a regional project and all fish and fish stocks included for assessment within the Project will be migratory, have a range that straddle the EEZ's of two or more countries, or have species present in two or more EEZ's that may not be genetically the same stock but would benefit from regional management experiences. SWIOFP focuses on an assessment of existing and Project-acquired information to develop an understanding of fisheries issues within the Agulhas and Somali Current LME's. This assessment will, along with data from the ASCLMEs and WIO-LaB Projects, feed into an overall TDA and SAP, with an expected outcome being national commitments to address key transboundary fisheries management issues, and establishing monitoring and evaluation indicators (process, stress reduction and environmental status indicators) to monitor long term ecosystem health.

SWIOFP, together with the other two projects under the ASCLMEs Program, is therefore consistent with the GEF International Waters (IW) Strategic Priority#2, which seeks to expand global coverage of capacity building with a focus on cross-cutting aspects of African transboundary waters and support for targeted learning. The project also addresses one of the key program gaps in transboundary waters identified by GEF: fisheries depletion. The GEF IW Strategy also calls for South-to-South sharing of experiences, learning, technology transfer, and filling gaps in understanding of transboundary water systems. The SWIOFP address these issues clearly through extensive partnership and linkages among the nine participating countries and regional bodies. SWIOFP through the overall LME program will help achieve the IW Strategy objective of including GEF IW projects in 90% of all LDCs and 90% of all SIDs

and further satisfies the IW Strategic Priorities by enabling countries to achieve targets agreed at the World Summit on Sustainable Development (Johannesburg WSSD, 2002). These include strengthened regional cooperation for management of the oceans, adoption of an ecosystem approach to fisheries management, and the maintenance or restoration of fish stocks..

SWIOFP Compliance to Priorities within GEF OP#2: The project conforms with GEF OP#2 (Coastal, marine and Freshwater Ecosystems) objectives as described in the discussion of Component 6 (Mainstreaming biodiversity in national and regional fisheries management). The project primarily contributes to the GEF Biodiversity Strategic Priority (SP)#2-*Mainstreaming biodiversity conservation in production systems* and, shows strong linkages to SP#4-Generation and Dissemination of Best Practices for addressing current and emerging issues in Biodiversity. The SWIOFP will support mainstreaming of the biodiversity in the production landscape primarily (i) by strengthening local institutional capacity to address environmental issues and manage or co-manage marine and coastal resources; (ii) by assessing effectiveness of existing “excluding devices” in fishing gear and fostering research in improving this technology to reduce by-catch; (iii) by assessing how fishing gear and fishing methods impact on other marine life such as sea birds, marine mammals, sea turtles, etc. as part of a management strategy to minimize these losses; (iv) strengthening environmentally sound fisheries management by promoting economic incentives (or dis-incentives) for sustainable use, and (v) by promoting development of nationally adopted management strategies for regional stocks of endangered species of commercially exploited fish such as sharks

Sustainability (including financial sustainability)

At the LME program level, a number of on-going political processes within the region provide the foundations for ensuring the political sustainability of interventions, and level of confidence that an ecosystem management framework for the Agulhas and Somali Currents LMEs will be operationalized as part of SAPs implementation. These processes include those related to NEPAD, the Nairobi Convention, SADC, and the SWIOFC. The LMEs program has established early linkages with the SWIOFC, and while the ASCLME Project and SWIOFP projects will be able to assist the SWIOFC over the period of project implementation by fulfilling many of the objectives that are foreseen by the SWIOFC, the SWIOFC will continue to exist beyond the life of the program and thus will be an instrument of sustainability over the longer term. The Nairobi Convention will also be a key vehicle for assuring the longer term sustainability of the outcomes. Finally, the overall program will help leverage resources from national budgets, and multi-lateral and bilateral funders to implement the activities identified as priorities in the SAP. Interventions will help match funding needs with prospective funding sources. Economic evaluations of the costs and benefits of LME management will provide a basis for justifying budgetary appropriations to the Program including from fishery license fees. This will be facilitated through efforts to mainstream activities within Poverty Reduction Strategies and Disaster Mitigation Program, which influence the budget plans of governments and donors.

At the project level, participating countries in SWIOFP have designed this project to help ensure that sustainable benefits accrue either through direct exploitation of the fisheries resources themselves or through more scientifically informed granting of access rights. The data on national fish stocks is expected to improve the ability of member countries to more efficiently regulate their commercial fisheries and possibly increase the revenue associated with them, while the development of the longer-term resource management model accommodates a revenue-generating scheme based on the use of EEZ marine resources in an environmentally and socially sustainable way. See also section C.4 of the Project Brief.

It is envisaged that, after the five-year SWIOFP is completed, a 7-10 year follow-on program will be initiated. This second phase would be oriented more towards sustainable exploitation of fisheries identified as having commercial value, and more effective management over impact of commercial fishing on “non-target” species, such as seabirds, large mammals, turtles, etc.

Financial sustainability

The regional nature of the project, the relatively low long-term financial burden created by project activities, and the increased financial benefits associated with more efficient fisheries regulation will all contribute to the financial sustainability of the project. The SWIOFC and other regional institutions are also expected to provide a forum for leveraging funds for the activities identified for future phases of SWIOFP.

Institutional sustainability

Although SWIOFP will create a regional PMU, it will be hosted by a country and will, by project end, incorporate itself within a regional institution to be determined by the SWIOFP participating countries. The primary tasks of the staff of the regional PMU will be to manage data collection and regional coordination. The former will not be required after the project’s end and the latter will most likely be transferred, according to the above-mentioned arrangement, to the SWIOFC.

Replicability

Replication of SWIOFP achievements will focus on scaling-up regional and sub-regional management activities based on the outputs of the fisheries management plans rather than on geographical expansion. The SWIOFP lays the groundwork for embarking on a long-term development strategy for offshore fisheries including the likelihood of spinning-off many sub-regional projects using SWIOFP’s scientific/information-based approach to management. The Programmatic Approach, through its use of the three IAs to undertake specific projects within the Programme based on comparative advantage, is a promising approach for replication in other, future GEF IW projects. Further, the emphasis on establishing strong scientific baselines across a broad range of oceanographic and biodiversity values is also an approach that could be replicated in other developing regions where a modular approach is being applied to the management of LMEs. The elements of SWIOFP that will be replicated through potential follow-on projects are:

- Targeted and prioritized capacity building appropriate to the likely commercial gain from sustainable management of a fishery(ies);
- Mainstreaming ecosystem-based management of shared fisheries resources through continuing baseline monitoring programs and scientific linkages between SWIO countries;
- Promoting regionalization of shared fisheries resources by continued support to existing regional bodies such as the SWIOFC, maintaining a regional database of fisheries and offshore environmental data available to all fisheries managers in the West Indian Ocean, and promoting scientific links and regular interactions between scientists in the SWIOFP countries.

Stage 3 of the project (the last 43 to 60 months) is designed to assist participating countries in developing this “post SWIOFP” phase and, as part of implementation of stage 3, funds will be earmarked for workshops and production of specific regional, sub-regional and national plans. Replication will also be greatly assisted by the project’s close alignment with regional institutions with a mandate covering SWIO LMEs. It is foreseen that the project will result in establishment of comprehensive scientific information base that will serve as a platform for informing long-term management decisions for shared waters, fisheries and biodiversity. This is an approach that could well be of use for other GEF IW initiatives. The programmatic approach to public participation and community education through the incorporation of DLIST and other stakeholder involvement activities across a range of GEF projects in the SWIO region is

also an approach that could lend itself to useful replication in other development regions where the GEF has cross-Programmatic interventions planned or underway. The Project will also take advantage of the IW:LEARN to develop training courses at the regional level and will be used to help both disseminate and harvest lessons/ good practices to and from other projects. A minimum of US\$150,000 is earmarked in the SWIOFP budget to allow relevant staff and managers to participate in biennial GEF IW and biodiversity conferences, and to produce project related information for presentation.

Stakeholder Involvement

While SWIOFP will focus primarily on generating knowledge and building capacity for regional fisheries management – and thus will not have a large number of beneficiaries who participate actively in the project – it will nonetheless have a strong element of stakeholder participation. Stakeholders from all member countries are participating in the project, including fisheries-related ministries, research institutes and associations, fisheries operators or processors, NGOs and local communities. National fisheries ministries and research institutes will have a direct role in project implementation or supervision, while many other stakeholders will play a role in implementation (for more information on stakeholders, see Annex 17 of the Project Brief which provides the stakeholder involvement plan. This will be further fine tuned by CEO endorsement).

The SWIOFP is designed to build on existing knowledge and will require extensive consultation with other stakeholders to design a scientific program to be undertaken in the second and third years of the project. Mechanisms for stakeholder participation in SWIOFP include:

- *Participation in implementation of specific components or sub-components:* Nearly all SWIOFP components will require some partnership with national stakeholders for their implementation.
- *Participation in design of specific project activities:* The design of SWIOFP's scientific activities will be refined in the first year through a gap analysis which will draw on the expertise and information of a wide range of stakeholders.
- *Review of project outputs and integration of regional fisheries issues into national fisheries management strategies:* National stakeholders will also play a role in evaluating project outputs and, as the project nears completion, will play a key role in informing the TDA and SAP process, which should reflect national consensus.

Monitoring and Evaluation

Monitoring and Evaluation (M&E) will be undertaken by all key partners. The objective of the M & E system will be to ensure better planning, targeting, and feedback to participating countries and timely decision making in order to improve impact of the project activities under both the focal areas. The Regional Executive Secretariat will maintain primary responsibility for monitoring and evaluation during project implementation and play a supervisory role in monitoring implementation at the national level by the nine National Secretariats. The Regional Executive Secretariat, National Secretariats and component managers will be responsible for reporting on performance based on the performance indicators developed in the results framework and the targets set in annual work plans, on a quarterly and annual basis.

The performance of the Regional and National Secretariats will be assessed annually by the Regional Management Board and Regional Steering Committee as well as through periodic supervision visits by the World Bank. At the project mid-point, a mid-term review will be carried out to evaluate implementation progress. At project end, an implementation completion report will be prepared to assess project impact and the degree of success on achieving project objectives. Overall, the project will assess its project management systems and procedures in respect of their relevance, effectiveness, efficiency and

impact on both the national and regional levels. This will be carried out through input, process, output, outcome and impact tracking indicators which have been developed within the results framework.

In addition to the specific monitoring and evaluation arrangements that will take place as part of project management, M&E will be an integral part of project activities. Project outputs will include baseline data collection which will be used to measure progress during project implementation and beyond. In addition, specific M&E activities have been defined within components 1, 5 & 6. In particular component 1-Data and Information Technology, will include a comprehensive review sourcing of data from various entities, including repatriation of some data from private and national bodies and establishment of a regional database. Specific capacity strengthening will occur through the inclusion of M&E elements into training activities in all components.

The GEF guidance for M&E (the GEF International Water Monitoring and Evaluation Framework) in IW projects which distinguishes the three types of indicators: Process Indicators (PI), Stress Reduction Indicators (SRI) and Environmental Stress Indicator (ESI), will be used to guide the finalization of the M&E system at project appraisal, and made ready by the time of CEO endorsement. Under the biodiversity focal area, the WWF tracking tool/METT will be used for monitoring and evaluation of project outcomes, and will be fine-tuned and customized to fit with the context of the participating countries. More detailed information on project's monitoring and Evaluation plan can be found in Annex 3 of the GEF Project Brief and Annex B of this Executive Summary.

4. FINANCIAL MODALITY AND COST EFFECTIVENESS

Co-financing Sources				
Name of Co-financier (source)	Classification	Type	Amount (US\$)	Status
FAO	International organization	Grant	250,000	Pledged as part of ASCLMEs
Other Bilateral Contribution	International organization	Grant	12,100,000	Under negotiation
Norway (research vessel)	Bilateral	In-kind/Grant	3,000,000	Pledged
South Africa, Tanzania, Seychelles, Mauritius (research vessels)	Government	In-kind	4,000,000	Committed (final amt. tbd at Appraisal)
France-GEF	Bilateral	Grant	1,000,000	Pledged
Participating government contributions operating expenses	Government	Grant	2,600,000	Committed
Sub-Total Co-financing*			22,950,000	

* see Incremental costs analysis for detailed information of project costs and cofinancing.

1. INSTITUTIONAL COORDINATION AND SUPPORT

Core Commitments and Linkages

There are a number of regionally based institutions, all of which deal, at least in part, with the activities envisaged in SWIOFP and more broadly in the ASCLMEs Program. SWIOFP is closely aligned to identify priorities in marine resource management and will be an important instrument for meeting international treaty obligations, the Code of Conduct for Responsible Fisheries, and many of the marine resource strategies developed by regional institutions such as the New Partnership for African Development, the IOC and SADC. It is envisaged that SWIOFP's efforts to establish ecosystem management of shared fisheries resources will have direct application to the activities and objectives of

the SWIOFC. Synergy between SWIOFP and SWIOFC will therefore be fully developed and could include financial support to help establish the Commission.

Participation in SWIOFP partially fulfills commitments made by the participating countries at the World Summit on Sustainable Development (WSSD) to sustainably manage fisheries resources, and to national development priorities related to alleviation of poverty through the sustainable development of marine resources. A common thread in the Bank's Country Assistance Strategy for all eight countries in SWIOFP is that poverty alleviation is fostered through a program of Bank development assistance that places emphasis on environmental sustainability and social equitability.

Consultation, Coordination and Collaboration between and among IAs and EAs

Partnership and coordination with ASCLMEs, WIO-Lab and other relevant projects in the SWIO.

The Implementing Agencies (UNDP, UNEP and the WB) have been and will continue to work collaboratively toward the realization of the overall objectives of the ASCLME Program. Each of the three IAs has been represented at most of the preparation sessions for the respective projects of the Program. The WB implemented SWIOFP project and the UNDP implemented ASCLME project were developed in close collaboration between the respective Project Managers and other expert resources associated with the two projects. These two projects have collaborated closely in developing their respective baselines and logical frameworks. The latter accommodates outputs of the WIO-LaB project. In addition, UNDP has ensured that the project has been designed to complement other planned and complementary GEF projects within the ASCLME region, in Africa and globally. A list of the relevant projects is provided in Annex 10 of the Project Document.

The **Program Coordination Committee (PCC)** would be comprised of members from each of the projects. Overall responsibility for coordination will be assumed by the ASCLMEs project. Each of the projects would be represented on the PCC by the respective task team leaders for the IAs, Project Managers, and two members from each of the respective Project Steering Committees. The PCC would meet not less than once annually, and will meet at the call of any of the project managers. Among other things, the PCC would focus on establishing a unified approach to capacity building, LME module coverage, TDAs and SAPs development, donor recruitment and other related issues. The UNDP, working through the PCC would also ensure that projects in combination, and in relation to other related GEF projects and program operative in the region.

The UNDP ASCLMEs project will also assume ultimate responsibility for the development of the TDAs and SAPs that will be a principal product of the programmatic approach. It is foreseen that a two TDAs and two SAP s will be prepared within the programmatic approach for the two LMEs, one for the Agulhas Current LME and a separate TDA and SAP for the Somali LME³. The UNDP ASCLMEs project will utilize TDA and SAP inputs from the WIO-LaB and SWIOFP projects in final TDAs and SAPs preparation, utilizing also Interministerial Committees (IMCs) and technical workgroups as necessary to assure a comprehensive TDA and SAP for the Agulhas LME and a preliminary TDA for and SAP for the Somali LME. A harmonized implementation structure for the projects has been agreed:

- ◆ Each of the Project Managers will sit on the respective Project Steering Committees established under the Program to assure a continuing and effective set of programmatic linkages, the avoidance of activity duplication, and the creation of cost efficiencies at the administrative level.

³ As previously mentioned, it will not be possible to do a comprehensive TDA and SAP for the Somali LME due to the continuing instability in Somalia, which comprises a large shoreline area for the Somali LME. Emphasis at the early stages would be on completing a preliminary TDA for the Zanzibar Current area.

- ◆ The Regional Management Office of SWIOFP will house the Ship Coordination Specialist. This expert will be an ASCLME Program officer and the funding to support the position, including provision of office space and support, will be assumed by SWIOFP.
- ◆ The Regional Management Office of the UNDP ASCLMEs project will house the ASCLMEs Information Systems Officer. This expert will be a ASCLMEs program officer and funding to support the position, including provision of office space and support, will be assumed by the UNDP ASCLMEs project.
- ◆ Annual Work Program for the three projects will be prepared jointly, using the vehicle of an annual Program meeting. The responsibility for hosting this meeting will alternate among the projects, and the UNDP ASCLMEs project will be responsible for overall coordination. Further, the annual program meetings will include comprehensive reports from each of the projects on the status of information gathering pursuant to TDAs and SAPs preparation.
- ◆ There will be a UNDP ASCLMEs/WB SWIOFP Coordination Committee whose membership, as initially discussed, will include the National SWIOFP Manager of each SWIOFP country and the Regional Executive Secretary, and the senior member of the UNDP ASCLMEs Project Steering Committee from each country and the ASCLMEs project manager. This group will meet immediately before and in conjunction with the Annual Work Program meeting. This will be a technical meeting and deal with inter-project coordination issues. Chairmanship of the meeting will alternate among the Project Managers.
- ◆ EcoAfrica will execute the DLIST project on behalf of the UNDP ASCLMEs project and for the benefit of the three projects within the ASCLMEs Program as a whole. EcoAfrica has successfully assumed such a role for the GEF supported Benguela Current Large Marine Ecosystem project.

Project Implementation Arrangement: The SWIOFP will be implemented on both the national and regional levels. SWIOFP will identify regional management issues and responses as its major outcome. Real capacity needs cannot be fully identified until after the TDA and SAP are completed (in fact, a detailed capacity building plan would be one part of the SAP). As such, capacity building in SWIOFP will be limited to that needed to undertake the Project. It is intended that the project implementation structure will support and strengthen management mechanisms that are already in place, rather than replace them. There will be three distinct units of project management:

Regional political coordination: In order to ensure that project implementation takes into account the political interests of the member States, the project will establish a Regional Political Steering Committee, comprised of Fisheries Ministers or Permanent Secretaries, to manage the political coordination of the project. The Committee would meet annually and provide a forum for engaging on the resource management issues raised by the project. The Committee would also exercise oversight over the technical teams at the regional and national level.

Regional technical coordination: Two units will be responsible for technical coordination at the regional level: (a) **Regional Executive Secretariat:** This will be a high-level political steering committee that will act as a kind of Project Management Unit, providing financial, regional procurement, ship coordination and harmonization services to the National Management Units; and (b) **Regional Management Board:** Comprised of staff of the Regional Executive Secretariat and the technical heads of fisheries (Fisheries Directors or their delegates), this Board will provide technical oversight over the secretariat and the project.

National technical coordination: The bulk of implementation of the technical aspects of the project will occur through **National Management Units**, which will be entirely staffed by civil servants. There will be one unit for each of the participating countries, to include the following positions: a National

Executive Secretary, a Sub-component Manager, a National Procurement and Financial Manager and different Project Leaders. Some countries will host a specific Component Coordinator with regional responsibilities for coordinating and managing activities across countries: Seychelles for pelagic fish, Kenya for demersal fish, South Africa for crustaceans, Mauritius for non-consumptive resources, and Madagascar for monitoring.

More information on project implementation arrangements can be found in Annex 6 and Section C.2 of the GEF Project Brief.

ANNEX A: INCREMENTAL COST ANALYSIS

Background

The WIO large marine ecosystems are strategically important as sources of local community livelihoods, biodiversity, ecological services, fisheries and other economic activities. A number of national and international initiatives are underway to improve the sustainable use of WIO resources. These activities form a set of baseline activities that can be characterized as generally beneficial to the health of the LMEs of the SWIO and the natural resources therein, but are presently insufficient to achieve long-term sustainability of the overall system. The incremental cost analysis presented in this annex provides greater detail on baseline activities currently underway in the SWIO and the incremental costs associated with the GEF financed program of LME management proposed by the UNDP sponsored ASCLMEs Project and the World Bank sponsored SWIOFP.

Baseline Scenario

The baseline scenario represents an assessment of the current national and international investment in areas complementary to the components of the ASCLMEs Project and SWIOFP. It has been calculated for both the ASCLMEs project and SWIOFP as the two projects are closely linked and build upon the same baseline activities. Total baseline costs are estimated at US\$ 193 million (of which US\$ 110 million is associated with SWIOFP activities) and are based on assessment of ongoing and planned national and international efforts in marine and coastal research, monitoring, and management. This includes support to relevant activities within Government ministries and departments, externally funded donor projects, and participation in regional initiatives. Only expenditures related to the activities identified in the GEF alternative are included in the baseline assessment, although some context is provided on the overall support to marine and environmental management within the region. Efforts have been made to gather as much data as possible, however, given the large number of countries involved, there are inevitable data gaps. See tables 3 and 4 below for a detailed breakdown of baseline activities, costs and sources of financing.

Baseline Activities and Overall Ecosystem Sustainability

In the absence of GEF funding, the nine countries participating in the ASCLMEs Project would continue to pursue a set of largely national and limited regional activities related to monitoring and managing the marine resources of the SWIO. These include a number of national and international initiatives in managing specific aspects of the coastal and marine environment (particularly in creation of MPAs, MMAs or in regulating fishing effort), and improving knowledge of the marine ecosystem through targeted research activities. While these baseline activities certainly represent a move towards better ecosystem management, they are not yet sufficient to achieve long-term sustainability. Currently there is only a partial picture of large scale processes and dynamics of LME systems and support to regional coordination is still at relatively low levels. Given the high level of poverty that exists in many of the countries that are the subject of these two projects, and the consequent lack of capacity to take a broader, eco-systemic approach to the resources of the two LMEs, there is understandably little incentive for country contributions to a regional approach to the LMEs, an approach necessary to achieve global benefits in the areas of fisheries, biodiversity, and climate change.

Improving Knowledge of the SWIO Large Marine Ecosystems

The SWIO region has been the focus of a number of oceanographic campaigns and there is relatively good understanding of certain aspects of physical oceanography, specific coastal systems (coral reefs, mangroves) and species of conservation concern (marine mammals, turtles, sharks). Oceanographic

research and ecosystem assessments have been undertaken by national marine research bodies, NGOs and a variety of donor funded projects (projects sponsored EU, World Bank, AfDB, WCS, WWF). Lack of ship time and specialized equipment limit the amount of data collection but the baseline activities include studies on coral reef systems (Seychelles, Mauritius, Reunion, Madagascar, Tanzania); marine mammal populations, particularly the dugong (Madagascar, South Africa, Mozambique); algal biomass on reefs (Reunion); collection of data on sea mounts, hydrography and bathymetry (Madagascar, South Africa); and biodiversity assessments (all).

In the fisheries sector, a number of national, commercial and international bodies are involved in collection of fisheries related data within the SWIO. All nine countries support fisheries departments and fisheries related scientific activities with baseline activities sponsored by national governments generally confined to near shore and artisanal fisheries. Most studies on offshore fisheries stocks, distribution and behavior is undertaken with the support of external financing. Because of their value, pelagic fish species, particularly tuna, have been studied more intensively and their dynamics and trophic relations are generally well known. Tuna related studies includes the Tuna Tagging Program in the WIO, OSIRIS (tuna management), and high seas pelagic ecosystems studies. Demersal fish species are also the focus of a limited number of studies including CAPPES project (France/Reunion) and other (Madagascar, Tanzania). Shallow and deep water crustacean studies are taking place primarily in South Africa and Mozambique. Baseline activities related to fisheries data management are limited, an EU sponsored regional fisheries data system has begun to integrate some data, although it is not comprehensive of species or across the region. There are also independent surveys of biodiversity such as the South African funded ACEP.

Regional Management of ASCLMEs Project Ecosystem

While there is no single institution dedicated solely to management of the ASCLMEs, several regional institutions have varying mandates to cover all or part of them. These include NEPAD, the Indian Ocean Tuna Commission, the Indian Ocean Commission, the new Southwest Indian Ocean Fisheries Commission, the Nairobi Convention, and SADC. A large regional coastal zone management project is due to begin implementation under the sponsorship of the Indian Ocean Commission and COMESA. Components related to ecosystem management include development of institutional frameworks for management of coastal zones and Marine Protected Areas (MPA's), and a series of ICZM pilot projects in WIO countries.

National Management of the ASCLMEs Ecosystem

The policy framework for national ecosystem management is in place and all nine countries have national environmental plans and most countries have fisheries master plans. However there is a need to readjust the framework to meet the WSSD marine targets. Several countries have instituted near-shore governance mechanisms or institutional structures to manage marine and coastal resources. These have often taken the form of integrated coastal zone management projects (Mozambique, Tanzania, Kenya, and South Africa). The ICZM projects also include an element of community and participatory management including information sharing, awareness raising and community monitoring activities.

Monitoring of the entire ecosystem (coastal, riparian, shallow and deep water) within national boundaries is not common and many countries face difficulty monitoring commercial marine resources. Many fisheries departments engage in limited MCS activity within the EEZ, but are limited by resource constraints. A few donor financed MCS projects are underway to increase the capacity of national governments to monitor their national waters (Madagascar, Tanzania, and Seychelles).

The GEF Alternative⁴

The GEF alternative is defined as the set of activities related to an LME approach to management of the SWIO. For the purposes of this incremental cost analysis the GEF Alternative includes the two proposed GEF projects in LME management, ASCLMEs Project and SWIOFP and their co-financing activities⁵.

The overall Global Environmental Objective of the ASCLMEs Program is to maintain the long-term sustainability of the living resources of the Western Indian Ocean. This goal is being pursued by a set of related GEF interventions (the UNEP sponsored WIO-LaB, the World Bank sponsored SWIOFP, and the UNDP sponsored ASCLMEs Project as well as nationally and internationally supported projects in marine and ecosystem management that are closely aligned to SWIOFP and the ASCLMEs Project objectives.

The Global Project Objective of SWIOFP is to promote the environmentally and socially sustainable use of fish resources through adoption of an ecosystem approach to management in the Agulhas and Somali LMEs that recognizes the importance of preserving of biodiversity. SWIOFP will accomplish this objective by identifying and filling gaps in existing data describing commercially exploited or exploitable fish stocks, developing a regionally harmonized, nationally implemented policy of ecosystem based management of sensitive fish species, and leveraging awareness of the importance of including biodiversity conservation in national and regional management plans. The expected outputs of the project are establishment of baseline data and information on fish, identification of fisheries and regional governance issues and establishment of institutional mechanisms for both national and regional ecosystem management of these issues.

Work undertaken through the project will result in significant inputs to the development of an ecosystem based Transboundary Diagnostic Analysis (TDA) and Strategic Action Program (SAP) for management of the natural resources of the Agulhas and Somali Currents LMEs. Formulation of a final TDA and SAP will be undertaken by UNDP as part of the overall GEF supported ASCLMEs Project. The principle contribution of the SWIOFP to the TDA and SAP will be differentiation between major environmental and anthropogenic factors that impact migratory and shared fish resources, the establishment of a baseline for key fish species, estimates of commercial fishing pressure and the evaluation of the impact of fisheries on marine resources as a whole.

GEF funds will be used to finance the incremental costs associated with regional and sub-regional activities designed to promote sustainable management of shared resources in the Agulhas and Somali LMEs. More specifically the GEF will finance the incremental costs of:

- assisting countries to better understand fisheries related issues in their international waters and work collaboratively to address them;
- building capacity of existing institutions, or through new institutional arrangements, to utilize a more comprehensive approach for managing transboundary fisheries
- implementing sustainable measures that address priority transboundary fisheries issues

⁴ A joint incremental cost analysis was undertaken for both the SWIOFP and the ASCLMEs Project, however, for ease and clarity of presentation, only the SWIOFP element is presented here.

⁵ Using this definition of the GEF alternative, the GEF financed WIO-LAB project should also be included in the incremental cost analysis, however because it has already been approved and undertaken an incremental cost analysis of its own, it is not included here.

- Build a regional consensus on inclusion of biodiversity preservation in offshore fisheries management of shared stocks. Ensure sustainability of this by leveraging biodiversity preservation as a permanent agenda item of the SWIOFC
- Support studies targeted at minimizing by-catch and fisheries impacts on non-targeted, non-fish, species such as sea birds, marine mammals, sea turtles, etc.
- Generally, all measures need to help participating countries achieve agreed WSSD marine targets.

Costing of the GEF Alternative

The baseline for SWIOFP has been estimated at US\$110.7 million and the GEF Alternative is costed at US\$145.8 million. The total incremental cost for the project is US\$ 35.1 million of which GEF would fund incremental costs, amounting to US\$ 12 million (\$12.725 million including PDF-A and PDF-Bs). Incremental costs associated with OP8 and OP2 are US\$ 9 million and US\$ 3 million, respectively. Co-financing is estimated at US\$20.1 million constituting funding appropriated by Norway (donation of research vessel time); Sweden, through its support to the Southwest Indian Ocean Fisheries Commission; South Africa (research vessel time and support to the Oceanographic Research Institute and the African Coelacanth Ecosystem Program); France (in kind contribution through French GEF funds); ACEP and ORI (multiple donors in addition to South Africa); and Government contributions (all countries). GEF funds have been committed for activities demonstrating clear global benefits and are described in more detail in the incremental cost matrix (Table 3). The economic and financial analyses done for the project also clearly identify the project benefits (see Annex 9).

Table 1. Breakdown of GEF Alternative by component

Component	Baseline Cost (US\$)	Incremental			Total GEF Incremental (US\$)	Total GEF Alternative (Baseline + Incremental)
		GEF Financing (OP8+OP2)	Gov. Contribution	Other Financing		
1: Data and Information Technology	2.28	2.4	0.86	1.36	4.61	6.89
2: Assessment and Sustainable Use of Crustaceans	14.1	3	0.46	4.27	7.73	21.83
3: Assessment and Sustainable Use of Demersal Fish	14.52	3	0.48	4.62	8.1	22.62
4: Assessment and Sustainable Use of Pelagic Fish	39.23	1	0.5	2.3	3.8	43.03
5: Monitoring of fishing effort	29.79	1	0.1	3.07	4.17	33.96
6: Mainstreaming biodiversity in national and regional fisheries management	5.25	0.5**	0.1	1.65	2.25	7.5
7: Strengthening Regional Project Management	5.51	1.1	0.1	3.25	4.45	9.96
Total	110.68	12.0	2.60	20.51	35.11	145.79

(** US\$ 3 million has been earmarked for funding under the biodiversity focal area. The total GEF costs for Biodiversity related activities are spread under components 1,2,3 & 4 and are estimated at US\$ 2.5 million. Therefore the total GEF incremental cost for Biodiversity adds upto US\$ 3 million (2.5+0.5))

Table 2: Summary of financing of the GEF Alternative for SWIOFP

Financing		Amount (in US\$ millions)
Co-Financing (in-kind and cash)	FAO	0.25
	Norway (research vessel)	3.0
	South Africa, Seychelles, Mauritius, Tanzania (research vessels)	4.0
	France-GEF	1.0
	Other Bi-lateral financing *	12.1
	Co-Financing Sub-total	20.51
Government Contributions		2.6
GEF Financing		12.0
	Total with Incremental Cost (including PDF of 0.725)	35.675

- The SWIOFP expects to obtain other bilateral financing for the project, discussion with donors are still at preliminary stages but could include the EU or DfID. Some figures have been rounded off for ease in reference

Justification for change in GEF Contribution to SWIOFP Finance Plan

SWIOFP was estimated to have an \$8-\$9 million contribution from the GEF, at pipeline entry. This estimate came out of the PDF-A meeting held in December, 2001. At that time, SWIOFP consisted of only 6 countries (Seychelles and Mauritius were only observers at this point) and the Project area did not extend further than the eastern coast of Madagascar. No technical work had been done other than to obtain endorsement of the first PDF-B grant request by the 6 participating countries. For a variety of reasons, preparation of a technical program did not start until late 2003, resulting in a science plan being drafted and presented at a plenary workshop in February 2004. It was only at this point that an estimate of actual/reasonable Project cost was possible. And SWIOFP had grown to 8 countries by this point, as Seychelles and Mauritius both asked to become full Project participants. This almost doubled the study area, but was essential if a realistic approach was to be taken in assessing and managing straddling and migratory fish stocks.

Once the SWIOFP countries had a chance to work as a complete unit and design a science plan, it became obvious that the amount proposed back in 2001 was not realistic and at least \$12 million GEF funding was needed and justified within a Project that had total cost (including contingencies) of about \$35 million. The biodiversity dimension of the project was always strong, as by-catch minimization and by-catch use, fishing impacts on non-associated species such as sea birds and marine mammals, and over-exploitation of some sensitive species of fish (fishing pressure on some sharks, tuna and bill-fish species, and slow growing demersal fish has long been of concern at the national level at the national level. SWIOFP represents the first opportunity that all countries of the SWIO have had to address these biodiversity issues in concert. The justification for funding under the biodiversity focal area (instead of just the IW focal area) has been strengthened by including all biodiversity-related issues under Component 6 to better differentiate and respond to the different focal area priorities and Monitoring and Evaluation criteria. Thus the project was readjusted to seek funding under both the International Waters (OP#8) and the Biodiversity focal area (OP#2).

SWIOFP Incremental Activities by Component

SWIOFP Component 1: Data and Information Technology

Total GEF Alternative: US\$ 6.89 million out of which GEF financing US\$ 2.4 million

GEF funds will finance the incremental costs associated with consolidating and evaluating data on the regional fisheries resources and the establishment of regional fisheries database. GEF funds will finance a comprehensive review and evaluation of existing datasets culminating in a gap analysis that will direct other project investments. GEF funds will also finance sourcing of data from various entities, including repatriation of some data from private and national bodies; establishment of a regional database and training for data handling.

Key GEF outputs: (i) New data on transboundary species and regional oceanographic characteristics, (ii) establishment of permanent data depository for use in long term ecosystem monitoring, and (iii) sharing of data through establishment of regionally based IT infrastructure accessible to SWIO countries and stakeholders.

GEF OP2 funding will specifically lead to a Database will include fields for existing data describing by-catch (amount and species diversity).

SWIOFP Component 2: Assessment and Sustainable Use of Crustaceans

Total GEF Alternative: US\$21.83 million out of which GEF financing is US\$ 3.0 million

The GEF alternative will build on on-going studies on crustacean species, focusing on establishing the distribution, stock discrimination and baselines for transboundary stocks. The component will also assess ecosystem impact of prawn by-catch and investigate options of gear optimization in shallow water lobster fisheries. GEF funds will finance technical assistance, wet leasing of ships time, aerial surveys, trawl gear, logistical expenses associated with ship cruises, remote sensing, trainings, workshops, pilot studies, and data analysis.

Key GEF outputs: (i) Data establishing transboundary migration patterns and regional species baselines; (ii) increased understanding of ecosystem impacts of crustacean fisheries, particularly bycatch and discards; (iii) testing of new technology to reduce negative ecosystem impacts; (iv) improved capacity at national level in ecosystem based fisheries assessment; and (v) collection of regional data on stock characteristics to underpin decision making on regional management.

GEF OP2 funding will specifically lead to: identification of species most impacted by the commercial fishery, possible impact of the gear used on species diversity, effectiveness of existing “excluding devices” in the fishing gear, identification of opportunities for modifying fishing methods to reduce by-catch and possible use of the by-catch.

SWIOFP Component 3: Assessment and Sustainable Use of Demersal Fish

Total GEF Alternative: US\$22.62 million out of which GEF financing is US\$ 3.0 million

The GEF alternative will build on baseline studies activities, focusing on establishing the distribution, stock discrimination and baselines for trans-boundary demersal fish stocks. The component will also assess ecosystem impact of by catch and determine the potential of new fisheries. GEF funds will finance technical assistance, wet leasing of ships time, aerial surveys, trawl gear, logistical expenses associated with ship cruises, remote sensing, trainings, workshops, pilot studies, and data analysis.

Key GEF outputs: (i) Data establishing transboundary migration patterns and regional species baselines to underpin decision making on regional management; (ii) increased understanding of ecosystem impacts of

demersal fisheries; (iii) testing of new technology to reduce negative ecosystem impacts, (iv) improved capacity at national level in ecosystem based fisheries assessment.

GEF OP2 funding will specifically lead to: identification of species most impacted by the commercial fishery, possible impact of the gear used on species diversity, effectiveness of existing “excluding devices” in the fishing gear, identification of opportunities for modifying fishing methods to reduce by-catch and possible use of the by-catch, and genetically differentiating stocks of a similar species that are separated by significant distances (and if similar, to develop an understanding of the mechanisms and importance of genetic mixing between populations)..

SWIOFP Component 4: Assessment and Sustainable Use of Pelagic Fish

Total GEF Alternative: US\$ 43.03 million out of which GEF financing is US\$ 1.0 million

The GEF alternative will build on on-going studies on pelagic fish species, focusing on establishing the distribution, stock discrimination and baselines for certain transboundary stocks. The project would focus on stock dynamics of small, super-small and mesopelagic species and to a lesser extent, stock dynamics some of the larger pelagics (including sharks). The project would closely coordinate with ongoing studies on tuna to avoid duplication. The project will also study optimization of fisheries including development of Fish Aggregating Devices. GEF funds will finance wet leasing of ships time, technical assistance, aerial surveys, ships gear, logistical expenses associated with ship cruises and data collection, remote sensing, trainings, workshops, pilot studies on gear optimization, and data analysis.

Key GEF outputs: (i) Greater understanding of stock dynamics of non-tuna large pelagic species (swordfish, bigeye) and other small and super small pelagics; (ii) Data establishing transboundary migration patterns and regional species for use in TDA and SAP; (iii) development of FADs and other technology improvements to reduce ecosystem impact of pelagic fisheries; (iv) improved capacity for ecosystem based fisheries assessment at national level.

GEF OP2 funding will specifically lead to: identification of species most impacted by the existing commercial fishery, species that could be very sensitive to new or expanded fishing pressure, possible impact of the gear used on species diversity, effectiveness of existing “excluding devices” in the fishing gear, identification of opportunities for modifying fishing methods to reduce by-catch and possible use of the by-catch.

SWIOFP Component 5: Monitoring of fishing effort and catch, existing value, and exploitation conflicts

Total GEF Alternative: US\$ 33.96 million out of which GEF financing is US\$ 1.0 million.

SWIOFP will improve the long term sustainability of marine resources by increasing the capacity of national fisheries management agencies to monitor fishing pressure within their waters. GEF will finance collection of sea observer monitoring data, establishment of discharge monitoring program, aerial surveys, establishment of land based monitoring and data verification systems, data collection to monitor fishing effort in select areas of the SWIO, linkage of communication infrastructure and development of coordination mechanisms and verification systems to implement a regional Vessel Monitoring System. It will also finance studies on: bioeconomics and marketing, conflict resolution, and issues related to economy and livelihoods.

Key GEF outputs: (i) improved national and regional capacity for marine resource monitoring; (ii) establishment of monitoring system for transboundary resources; (iii) greater understanding of economics of marine resources exploitation; (iv) identification of conflicts and other social issues related to fisheries operations.

SWIOFP Component 6: Mainstreaming biodiversity in national and regional fisheries management

Total GEF Alternative: US\$7.5 million, out of which GEF financing US\$ 0.5

Although many non-commercial species (whales, dolphins, sharks, turtles, seabirds) are the focus of conservation efforts, there are gaps in knowledge regarding the impact of certain fisheries activities on specific populations and habitats. The SWIOFP will provide funds to study the effects of fisheries on non-commercial marine resources and will deepen existing knowledge on anthropogenic threats to marine resources. GEF funds will be used to establish a competitive fund that provides grant funds for studies on the effects of fishing effort on other marine resources. GEF funds will also finance baseline assessments of fisheries interactions with other marine species, GIS mapping of key marine species, assessments of alternative economic potential of non-commercial species and identification of bio-indicator species.

Key GEF outputs: (i) Assessment of potential cascading effects in the ecosystem induced by fisheries activities for use in national and regional fisheries management strategies; (ii) identification of and collection of data on bio-indicator species; (iii) mapping of non-consumptive resources within region to value non-consumptive potential.

The outputs for Component 6 will be largely contributed to OP2:

- Biodiversity map; and
- Action plan detailing issues and actions related to fishery exploitation impacts on non-target species and how nations of the SWIO will manage commercial fishing impacts (production systems) on biodiversity (establishing legislation and enforcing that legislation on fishing fleet from within and outside the African region;.
- Establish an ongoing monitoring program that includes Monitoring, Control and Surveillance of Action Plan implementation and that will allow comparison of the biodiversity, ecosystem health and status of exploited fisheries against the baseline established by SWIOFP.

SWIOFP Component 7: Strengthening Regional Fisheries Management

Total GEF Alternative: US\$9.96 million out of which GEF financing is US\$1.1 million

The GEF alternative will finance development of a regional fisheries management framework and support to regional and national fisheries management bodies. GEF funds will be used for evaluation of national fisheries regulations and identification of areas where harmonization is needed; establishment of working relationship and technical support between SWIOFP and Southwest Indian Ocean Fisheries Commission; and equipment, training and staff costs to build capacity of regional and national fisheries management bodies. Support to national fisheries bodies would include establishment of specialized laboratories, technical assistance and office equipment.

Key GEF outputs: (i) Strengthened national and regional fisheries management institutions; (ii) adoption of ecosystems approach to regional fisheries management; (iii) adoption of an innovative, integrated approach to LMEs of SWIO (through overall ASCLMEs program).

Table 3: Incremental Cost Matrix

SWIOFP Component	Cost Category	US\$ Million	Domestic Benefit	Global Benefit
SWIOFP				
Component 1: Data and Information Technology	Baseline	2.3	Most countries have a national fisheries database – collaboration and consolidation on a regional basis is poor. Data in present form	Data on environment poor, particularly biological data. Bathymetric and oceanographic data also incomplete. Global Benefits of

SWIOFP Component	Cost Category	US\$ Million	Domestic Benefit	Global Benefit
			not amenable to transboundary stock assessments.	data collection limited by poor access to and lack of understanding about what gaps exist in data.
	GEF Alternative	6.9	<p>Improved coherence of data at the national level through aggregation and repatriation of data from various fisheries related entities; new data integrated into database accessible to national and regional fisheries management.</p> <p>Approach to issue of by-catch and fisheries impacts on other marine life fragmented and ineffective, particularly for shared stocks. Project regional database will, for the first time, present the total picture and nature of the problem. Will also allow M&E comparisons of interventions to minimize these issues against a baseline</p>	<p>New data on transboundary species and regional oceanographic characteristics; regional data atlas featuring both new and historical data and identifying data gaps; sharing of data through establishment of regionally based IT infrastructure accessible to SWIO countries and stakeholders.</p> <p>Present a scientifically valid tool for measuring regional impact of fisheries exploitation on “non-target” species and how effective new management measures based on ecosystem and biodiversity-friendly management can be against a baseline.</p>
	Incremental Cost	4.6	Total GEF= US\$ 2.40 million; Govt. Contributions: US\$ 0.9 million; Co-financing: US\$ 1.35 million	
Component 2: Assessment and sustainable use of crustaceans	Baseline	14.1	High levels of commercial exploitation of crustacean fisheries, particularly shallow water prawns; detailed knowledge of status and levels of sustainable catch poorly understood.	No regional management of crustacean fisheries, high level of discard waste in prawn trawl - ecosystem effects unknown; size and transboundary status of deep water crustacean species unknown.
	GEF Alternative (OP8)	21.8	<p>Greater understanding of shallow and deep water crustacean dynamics within exclusive economic zones. Management of stocks not segregated by national borders.</p> <p>Incorporation of biodiversity preservation in commercial fishing management at the national and regional level in 6.4 million km²</p>	Data collected will lead to increased understanding of ecosystem impacts of crustacean fisheries, particularly bycatch and discards. Data will establish transboundary migration patterns and regional species baselines. Collection of regional data on stock characteristics to underpin decision making on regional management
	Incremental Cost	7.7	Total GEF= US\$ 3.0 million; Govt. Contributions: US\$ 0.5 million; Co-financing: US\$ 4.3 million	
Component 3: Assessment and sustainable use of demersal fish	Baseline	14.5	Demersal species form the basis of many commercial and artisanal fisheries but distribution and abundance of stocks undescribed, stock potential not fully realized	Many demersal species are transboundary but knowledge of distribution throughout SWIO is incomplete; few species subject to national or regional management and ecological relationship between species is not well understood.
	GEF Alternative (OP8) GEF Alternative (OP2)	22.6	<p>Possible identification of new stocks for harvest or optimization of potential known stocks; better understanding of demersal stocks within exclusive economic zones.</p> <p>Incorporation of biodiversity</p>	Data collected will establish species baselines and provide information on dynamics, biology and genetic characteristics for a variety of species. Collection of regional data on stock characteristics to underpin decision making on regional

SWIOFP Component	Cost Category	US\$ Million	Domestic Benefit	Global Benefit
			preservation in commercial fishing management at the national and regional level in 6.4 million km ²	management, , particularly for species that are presently overfished regionally/globally, or that would be subject to overfishing because of life-histories.
	Incremental Cost	8.1	Total GEF= :US\$ 3.0 million; Govt. Contributions: US\$ 0.5 million; Co-financing: US\$ 4.6 million	
Component 4: Assessment and sustainable use of pelagic fish	Baseline	39.2	High value commercial large pelagic species subject to various data collection efforts including the Tuna Tagging Program. Smaller or less valued commercial species receive less emphasis and do not have management priority.	Large pelagics are almost exclusively transboundary, and although the focus of various data collection efforts, detailed biological baselines at the regional level are still lacking; distribution and abundance of lower valued species not well understood. Small, super small and mesopelagic stocks less well understood.
	GEF Alternative (OP8) GEF Alternative (OP2)	43.0	Increased efficiency due to technological improvements for local fishers through gear optimization; improved understanding of large pelagic stocks within national EEZs. Regional management plan for regionally and globally over-fished species such as large sharks, tuna, and bill-fish	Reductions in by catch and discards due to gear improvements; greater understanding of stock dynamics of non-tuna large pelagic species (swordfish, bigeye) and other small and super small pelagics. Collection of regional data on stock characteristics to underpin decision making on regional management., particularly for species that are presently overfished regionally/globally, or that would be subject to overfishing because of life-histories., .
	Incremental Cost	3.8	Total GEF=: US\$ 1.0 million; Govt. Contributions: US\$ 0.5 million; Co-financing: US\$ 2.3 million	
Component 5: Monitoring of fishing effort and catch	Baseline	29.8	Limited capacity and effort put into monitoring fishing pressure in national EEZs.	Limited monitoring of fishing pressure across region due to large area of SWIO and multiplicity of different fishing operations.
	GEF Alternative	34.0	Better monitoring of fishing pressure in EEZs through observer data collection; national monitoring procedures improved Vessel monitoring systems improve fleet regulation and identification.	Data on distribution of existing fishing activities across region; establishment of regional monitoring procedures.
	Incremental Cost	4.2	GEF: US\$ 1..0 million; Govt. Contribution: US\$ 0.1 million; Co-financing: US\$ 3.1 million	
Component 6: Fishing impacts on non-consumptive resources	Baseline	5.3	National management initiatives on coastal ecosystem management but little emphasis on fisheries related impacts in the offshore environment.	Fishing impact (incidental mortality) on other marine fauna (birds, dolphins, whales, turtles) not measured.
	GEF Alternative (OP2)	7.5	GIS Mapping of non-consumptive resources within national EEZs, estimation of eco-tourism potential.	Assessment of potential cascading effects in the ecosystem induced by fisheries activities, mapping of non-consumptive resources within region to value non-consumptive potential.
	Incremental Cost	2.2	Total GEF= US\$ 0.5 million; Govt. Contributions: US\$ 0.1 million; Co-financing: US\$ 1.6 million	

SWIOFP Component	Cost Category	US\$ Million	Domestic Benefit	Global Benefit
Component 7: Project Management	Baseline	5.5	National management of marine resources through government management agencies and regional institutions.	Some baseline activity in regional and national management of shared resources through participation in regional bodies (NEPAD, Nairobi Convention, etc.) but coordination mechanisms not strong.
	GEF Alternative	10.0	Improved capacity for national management.	Increased collaboration with other regional marine ecosystem initiatives; implementation of ASCLMEs and SWIOFPP activities, integration and or consolidation with regional fisheries management organizations.
	Incremental Cost	4.5	GEF: US\$ 1.1 million; Govt. Contributions: US\$ 0.1 million ; Co-Financing : US\$ 3.25 million	
Total Baseline		110.7		
Total GEF Alternative		145.8		
Total Incremental Cost		35.1	GEF: US\$ 12.0 million (OP8 Share: \$9 .0 million and OP2 Share: \$3.0 million), Govt. Contributions: US\$ 2.6 million; Co-Financing : US\$ 20.51 million	

Table 4: Baseline Activities by Country*

Country	Source of funds	Project/Agency	Baseline Total (US\$ ' 000s)	Year
<u>Kenya</u>	Govt.	Kenya Marine and Fisheries Research Institute	7,500	2004-2007
	Govt.	Kenya Fisheries Dept. (MOLFD)	2,848	2004-2007
	IUCN	Jakarta Mandate Project	350	2002 – 2005
	USAID	Marine Program/Coast Development Authority	814	2004-2005
<u>Madagascar</u>	AFD (France)	Management of Shrimp resources Project	586	2002-2007
	Af.DB	Artisanal Fisheries support	126	2002-2007
	Af.DB	Stock evaluation	150	2002-2007
	ICBG	Centre National de la Recherche Océanographique	79	2003-2005
	Donor	Centre National de Recherches Sur l'Environnement	170	2000-2004
	European Union	MCS Project for Madagascar Fisheries Dept.	1,200	1999-2007
	Govt.	Fisheries budget, fisheries projects, staffing	668	2004-2007
	WCS/ Am.	Cetacean Conservation and Research Program	100	current
	Museum of Nat.History	(CCRP)/ Marine Program		
	AFD/IRD (France)	National Shrimp Research	68	2002-2004
<u>Mauritius</u>	IFAD	Rural Diversification Project	1,400	2000-2005
	Japan	Fisheries Training and Extension	6,500	2003-2004
<u>Mozambique</u>	NORAD	Fisheries Research Institute	258	2002-2008
	CDE - EU	Fisheries Research Institute	57	2002-2008
	IFAD	Fisheries Research Institute	42	2002-2008
	World Bank	Coastal and Marine Biodiversity Project	260	2004
	France	Fisheries Research Institute	23	2002-2008
	Portugal	Fisheries Research Institute	3	2002-2008
	SADC/EU	Fisheries Ministry	2,000	2001-2006
	JICA	School of Fishery	3,985	
	Spain	School of Fishery	81	2002-2004
	EU	Fisheries Ministry	641	2003-2004
Government	Fisheries Research Institute	301	2004	

Country	Source of funds	Project/Agency	Baseline Total (US\$ ' 000s)	Year
<u>Regional</u>	COI/COMESA	Sustainable Management of Coastal Zones of the Countries of the Indian Ocean	26,000	2005-?
	EU	Fisheries Data System	358	current
	EU/IOTC	Tuna Tagging Program	677	current
	France	Monitoring of whales, dolphins and dugong	260	2004-2008
	SIDA	Coral Reef Degradation in the Indian Ocean (CORDIO)	1,056	2004-2008
	France/EU	OSIRIS	2,535	2004-2006
	EU, COI, IOTC	IOTC budget	18,200	
<u>Reunion</u>	France	THETIS	2,340	2005-2008
	France	CEDTM (Centre d'Etude et de Découverte de Tortues Marines)	874	2004-2007
	France	ECOMAR	156	
	France (IRD, IFREMER)	CAPPES	228	2004-2006
	France/EU	Pelagic ecosystems	358	?
<u>Seychelles</u>	Donor	Reef fish study	100	2002-2006
	France,	FADs As Instruments for Observation (FADIO)	1,430	2002-2006
	Belgium, Univ. of Hawaii			
	Gov. maybe donor	Forestry Coastal Rehabilitation	37	2004
	Seychelles Fishing Authority	Artisanal and Industrial Fisheries Research	1,600	2004
	Donor	SCMRT-MPA	165	2005
	Donor	SCMRT-MPA	233	2005
	UNESCO	Beach Monitoring Program	3	
	USA	Mooring buoys/marine park	6	
<u>Somalia</u>	UNDP	Fisheries feasibility assessment	-	2004
<u>South Africa</u>	Donor	Universities (Cape Town, Kwazulu Natal Rhodes, Stellenbosch, Western Cape, Port Elizabeth)	420	2004
	Donor	Survey of Deepwater Crustaceans - MCM	50	2004/2005
	Donors	SANCOR Sea and Coast Program	1,512	2004
	France	IRD researchers	625	2004
	Govt.	Overall Fisheries budget	43,848	2005/2006
	Govt.	Fisheries budget - MCS, Marine patrol	16,065	2005/2006
	Govt.	Fisheries Budget - Research	13,406	2005/2006
	Govt.	CSIR Coast Program	1,344	2004
	NORAD	NORSA Bilateral assistance to MCM	1,680	2006-2010
<u>Tanzania</u>	Donor (?)	Regional Fisheries Arrangement	805	2006
	Govt.	Tanzania Fisheries Research Institute (TAFIRI)	1	2005
	Govt/IDA	MACEMP (Marine and Coastal Env. Management Program)	47,130	2005-2010
	DfID	Fisheries Management for Sciences Program - FADs and Participatory Fisheries Stock Assessment	160	2004-2005
		Total (ASCLMEs Project and SWIOFP)	193,469	

* Note: The Baseline was calculated for both ASCLMEs Project and SWIOFP, the baseline costs associated with SWIOFP activities are approximately US\$110.7 million and approximately US\$ 82 million for ASCLMEs Project.

ANNEX B: RESULTS AND MONITORING FRAMEWORK

Global Environmental Objective (OP8 & OP2)	Outcome Indicators	Use of Results Information
<p>ASCLMEs Program: Long term sustainability of the living resources of the WIO LMEs maintained for the benefit of current and future populations of the region</p> <p>SWIOFP: To promote the environmentally sustainable use of fish resources through adoption by SWIO-riparian countries of an LME-based ecosystem approach to fisheries management in the Agulhas and Somali LMEs that recognizes the importance of preserving biodiversity</p>	<ul style="list-style-type: none"> • 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 • Production and adoption of at least two sub-regional management plans (including policy, institutional and legal framework) governing management of a specific transboundary fisheries for each of the three species categories of the project (crustacean, demersal, pelagic) • Adoption by all SWIOFP countries of a monitoring and evaluation framework (including environmental status and stress reduction indicators) that defines ecosystem health within the framework of a regional management institution (possibly the SWIOF Commission) legally mandated to undertake this function 	<p>Development of common strategy will demonstrate sustainability of project interventions</p>
Project Development Objectives	Outcome Indicators	Use of Results Information
<p>SWIOFP: (i) To identify and study exploitable offshore fish stocks within the SWIO, and differentiate between environmental (LME-related) and anthropogenic impacts; (ii) To develop institutional and human capacity through training and career building needed to undertake and sustain an ecosystem approach to NMR consistent with WSSD targets. (iii) To foster development of a regional fisheries management structure and associated harmonized legislation through strengthening the SWIOFC and other regional bodies. (iv) To mainstream biodiversity in national fisheries management policy and legislation, and through national participation in regional organizations that promote sustainable exploitation of fisheries resources.</p>	<ul style="list-style-type: none"> • Adoption of at least one national or multi-national management plan for a specific demersal, pelagic or crustacean fisheries by all countries participating in project • Regional fisheries database fully operational and inclusive of new and historic data, which contributes to the development of regional management plans for at least 2 fisheries • Production of baseline assessment (accompanied by database) that defines current status of relevant crustacean, demersal and pelagic fisheries in each of the participating SWIOFP countries. • Production of a sustainable fisheries management framework leveraged onto the agenda of regional fisheries management bodies that include biodiversity conservation as an underlying principle. 	<p>Development of regional initiatives and joint regional fisheries management strategy to indicate willingness and capacity of nations to adopt ecosystem management approach to LMEs in the WIO.</p>
Intermediate Results One per Component	Results Indicators for Each Component	Use of Outcome Monitoring
<p>Component One: Data and Information Technology.</p>	<p><u>By end of Project year 2:</u></p> <ul style="list-style-type: none"> • Regional database piloted and ranked 	<p>The identification and evaluation</p>

<p>(i) Assessment of the state of knowledge of fisheries resources in the WIO and recommendations on new data collection initiatives.</p> <p>(ii) Development of a regional data management system to underpin management of SWIO fisheries.</p>	<ul style="list-style-type: none"> • Production of a gap-analysis which identifies gaps in knowledge of SWIO fisheries resources and presents research agenda to be implemented by SWIOFP • 50% of historic data identified for inclusion in database/data atlas sourced or entered into database <p><u>By end of project implementation:</u></p> <ul style="list-style-type: none"> • Regional fisheries database fully operational and inclusive of 75% of data identified for inclusion • National fisheries related IT and communications infrastructure procured or upgraded for each of nine SWIOFP countries • Training in data handling and reporting provided for each of nine SWIOFP countries 	<p>of historic data will underpin the gap analysis and, once completed, signal the project's readiness to move towards a data collection phase.</p> <p>Progress made on training in data handling and reporting will indicate country readiness to participate in regional database management system.</p>
<p>Component Two: Assessment and sustainable use of crustaceans. (i) Baseline assessment of shallow and deep water crustacean stocks and fisheries in the EEZs of Mozambique, Kenya, South Africa, Tanzania, Seychelles, Madagascar and Comoros.</p> <p>(ii) Assessment of crustacean fisheries bycatch, evaluation of discard impacts, testing of exclusion devices, and measurements of ecosystems impacts in selected areas of the SWIO.</p>	<p><u>By end of project year 3:</u></p> <ul style="list-style-type: none"> • Survey methodology defined and found scientifically sound • Seven ship-based surveys and data collection exercises to assess the potential of new and existing fisheries. <p><u>By end of project implementation:</u></p> <ul style="list-style-type: none"> • Production of seven preliminary country reports and two to three consolidated sub-regional reports on status of crustacean fisheries • Two pilot studies on optimizing artisanal shallow-water lobster fisheries completed • # of published articles based on SWIOFP survey data 	<p>Results of baseline assessments, stock dynamics and fisheries impacts to guide regional management plans and TDA and SAP contributions.</p>
<p>Component Three: Assessment and sustainable use of demersal fish.</p> <p>(i) Baseline assessment of demersal stocks and fisheries in the EEZs of Kenya, Tanzania, Mozambique, South Africa, Seychelles, Comoros and Madagascar.</p>	<p><u>By end of project year 3:</u></p> <ul style="list-style-type: none"> • Survey methodology defined and found scientifically sound • Four ship-based surveys and data collection exercises to assess the potential of new and existing fisheries. <p><u>By end of project implementation:</u></p> <ul style="list-style-type: none"> • Production of seven preliminary country reports and two to three consolidated sub-regional reports on status of demersal fisheries • # of published articles based on SWIOFP survey data 	<p>Results of baseline assessments, stock dynamics and fisheries impacts to guide regional management plans and TDA and SAP contributions.</p>
<p>Component Four: Assessment and sustainable use of pelagic fish. Baseline assessment of selected large, medium and small pelagic stocks in the EEZs of all nine SWIOFP countries and development of strategies to optimize small and large scale pelagic fisheries, including</p>	<p><u>By end of project year 3:</u></p> <ul style="list-style-type: none"> • Survey methodology defined and found scientifically sound • Five ship-based surveys and data collection exercises to assess the potential of new and existing pelagic fisheries. <p><u>By end of project implementation:</u></p>	<p>Results of baseline assessments, stock dynamics and fisheries impacts to guide regional management plans and TDA and SAP contributions.</p>

FADs.	<ul style="list-style-type: none"> • Production of nine preliminary country reports and three to four consolidated sub-regional reports on status of pelagic fisheries <ul style="list-style-type: none"> • # of published articles based on SWIOFP survey data • Number of improved FADs tested and produced for large and small scale pelagic fisheries 	
<p>Component Five: Monitoring of fishing effort and catch. Development and testing of fisheries monitoring techniques and linkage of communication infrastructure and development of coordination mechanisms and verification systems</p>	<p><u>By end of project implementation:</u></p> <ul style="list-style-type: none"> • # of scientific sea observers trained • Improvement (x %) in frequency and coverage of national monitoring activities in each country • Initiation of land based monitoring and data verification systems in at least half of participating countries • Initiation of discharge monitoring program in at least half of participating countries • Two aerial surveys and data collection to monitor fishing effort in select areas of the SWIO. • Initiation of a regional Vessel Monitoring System 	<p>Progress on training and establishment of monitoring systems will demonstrate national capacity for long term ecosystem management and will guide future investments to be made in building national capacity for fisheries management.</p>
<p>Component Six: Mainstreaming biodiversity in national and regional fisheries management. Baseline assessment of fisheries interactions with non-consumptive marine resources and assessment of marine biodiversity as alternative sources of income</p>	<p>Component Six: <u>By end of year 1:</u></p> <ul style="list-style-type: none"> • Development of guidelines for study grant proposals completed • A detailed biodiversity assessment and management response work plan put in place. <p><u>By end of project implementation:</u></p> <ul style="list-style-type: none"> • Six studies on interaction between commercial and non commercial marine resources or potential alternative livelihoods completed • Key marine species GIS mapped in each of eight SWIOFP countries (all except Réunion) • Key bio-indicator species identified and relationships between target species and ecosystem health established through development of a biodiversity map. 	<p>Identification of interaction between fisheries and other marine resources will provide guidance in national and regional fisheries management planning.</p>
<p>Component Seven: Strengthening of Regional and National Fisheries Management. Development of regional fisheries management framework and support to regional and national fisheries management bodies.</p>	<p>Component Seven: <u>By end of project implementation:</u></p> <ul style="list-style-type: none"> • Evaluation of national fisheries regulations and identification of areas where harmonization is needed completed • Establishment of working relationship and technical support between SWIOFP and Southwest Indian Ocean Fisheries Commission as measured by participation in steering groups and number of joint activities • Regional PMU and national project offices in place • # of national level workshops to disseminate project outputs and develop follow on activities 	<p>Inadequate progress on development of coordination mechanisms will threaten successful regional fisheries management</p>

Arrangements for results monitoring

Results/Outcome Indicators	Baseline	Target Values					Data Collection and Reporting		
		YR1	YR2	YR3	YR4	YR5	Frequency and Reports	Data Collection Instruments	Responsibility for Data Collection
Global Environmental Objective									
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	No regional Strategy, partial data collection	Data Collection (see components 1-5 for monitorable targets)	Data Collection (see components 1-5 for monitorable targets)	Data collection complete, analysis, drafting of Strategy begins	75% completed – draft Strategy distributed and discussed	100% completion. Formal adoption by all nine countries	Annual project reports to give updates on evolution of regional fisheries management	SWIOFP Annual Reports SWIOFC publications	SWIOFP PMU
Adoption by all SWIOFP countries of a monitoring and evaluation framework (including environmental status and stress reduction indicators) that defines ecosystem health within the framework of a regional management institution (possibly the SWIOF Commission) legally mandated to undertake this function	SWIOFC newly established, No common M & E framework	Data collection (see components 1-6 for monitorable targets)	Data Collection (see components 1-6 for monitorable targets)	Identification of environmental status and stress reduction indicators and baselines based on input from Components 1-7	Drafting of regional M & E plan and dissemination within region	Finalization of Adoption of environmental status and stress reduction indicators	Quarterly and annual project reporting	SWIOFP Reports Minutes and Proceedings of SWIOFC	SWIOFP PMU
Production and adoption of at least two sub-regional management plans (including policy, institutional and legal framework) governing management of a specific transboundary fisheries for each of the three	Outside of tuna, little joint management of transboundary stocks	Data collection (see components 1-6 for monitorable targets)	Data Collection (see components 1-6 for monitorable targets)	Identification of specific fisheries and countries to participate in joint management based on input from Components 1-5	Drafting of at least three sub-regional management plans (i.e. at least one each for crustaceans, demersal and pelagic species) with each plan including two or more countries	Formal adoption of at least three sub-regional management plans (i.e. at least one each for crustaceans, demersal and pelagic species) with each plan	Quarterly and annual project reporting	SWIOFP Reports Minutes and Proceedings of SWIOFC	SWIOFP PMU

Results/Outcome Indicators	Baseline	Target Values					Data Collection and Reporting		
		YR1	YR2	YR3	YR4	YR5	Frequency and Reports	Data Collection Instruments	Responsibility for Data Collection
species categories of the project (crustacean, demersal, pelagic)						including two or more countries			
Development Objectives									
Adoption of at least one national or multi-national management plan for a specific demersal, pelagic or crustacean fisheries by all countries participating in project	Relatively few multinational management agreements outside of tuna, some national management plans	Data Collection (see components 1-5 for monitorable targets)	Data Collection (see components 1-5 for monitorable targets)	Identification of specific fisheries for management based on input from Components 1-5	Drafting of national plans (at least one national or sub-regional plan for each country). Dissemination in country	Finalization and adoption of management plans (at least one national or sub-regional plan for each country).	Quarterly and Annually	Individual country reports forwarded to SWIOFP PMU	National Executive Secretariats SWIOFP PMU
Regional fisheries database fully operational and inclusive of new and historic data, which contributes to the development regional management plans for at least 2 fisheries	National fisheries management plans exist but do not contribute to no national TDA or SAP for LME	Data Collection (see components 1-5 for monitorable targets)	Data Collection (see components 1-5 for monitorable targets)	Data collection complete, analysis, drafting of regional management plans started	75% completed – draft inputs for TDA and SAP distributed and discussed	100% completion, 2 regional management plans	Quarterly and Annually	Individual country reports forwarded to SWIOFP PMU	National Executive Secretariats SWIOFP PMU
Production of baseline assessment (accompanied by database) that defines current status of relevant crustacean, demersal and pelagic fisheries leading to a sustainable fisheries management framework to mainstream biodiversity into the regional agenda.	Some national marine capture fisheries data collected but few baseline assessments on stocks available	Data Collection (see components 1-5 for monitorable targets)	Data Collection (see components 1-5 for monitorable targets)	Data collection complete, analysis begins	On-going data analysis, production of eight preliminary country reports on baselines produced	Baseline assessment produced for relevant fisheries in each country and aggregated for specific transboundary species	Quarterly and Annually	Individual country reports forwarded to SWIOFP PMU	National Executive Secretariats SWIOFP PMU
Results Indicators for Each Component	Baseline	YR1	YR2	YR3	YR4	YR5	Frequency and Reports	Data Collection Instruments	Responsibility for Data Collection
Component One: Data									

Results/Outcome Indicators	Baseline	Target Values					Data Collection and Reporting		
		YR1	YR2	YR3	YR4	YR5	Frequency and Reports	Data Collection Instruments	Responsibility for Data Collection
and Information Technology									
Regional database piloted and ranked effective by majority of SWIOFP countries	Tentative agreement by SWIOFP countries on database platform	Formal agreement on database platform, procurement of services and licenses	Database structure established and piloted	Piloting of database completed	N/A	N/A	Quarterly	SWIOFP Project Reports Informal user survey	SWIOFP PMU National Executive Secretariats
Production of a gap-analysis which identifies gaps in knowledge of SWIO fisheries resources and present research agenda to be implemented by SWIOFP	Preliminary review of gaps in knowledge as part of PDF B	Procurement of services for gap analysis, draft gap analysis disseminated by end of year	Gap analysis found acceptable by SWIOFP countries and research agenda adopted	N/A	N/A	N/A	Quarterly and Annually	SWIOFP Reports Minutes of Steering Group Meetings	SWIOFP PMU
Historic data identified for inclusion in database/data atlas sourced or entered into database		Historic data identified based on input from gap analysis and agreement reached on composition of historic data in database/data atlas	25% of data entered into newly established database or sourced in form of a data atlas,	50% agreed data sourced or repatriated into new regional database	60%	75% of data repatriated or sourced in database/data atlas	Quarterly and Annually	SWIOFP Reports	SWIOFP PMU
National fisheries related IT and communications infrastructure procured or upgraded for each of nine SWIOFP countries		Beginning of procurement process	Continuous	Procurement complete in 75% of countries	Procurement completed in all countries	N/A	Quarterly	SWIOFP Reports	SWIOFP PMU National Executive Secretariats
Training in data handling and reporting provided for each of nine SWIOFP countries	Limited capacity in data handling and reporting	Identification of training needs by each country	Trainings scheduled or underway in all countries	Training underway in all countries	Training underway in all countries	Training completed in all countries	Quarterly and Annually	SWIOFP Reports	SWIOFP PMU National Executive Secretariats
Component Two: Assessment and sustainable use of									

Results/Outcome Indicators	Baseline	Target Values					Data Collection and Reporting		
		YR1	YR2	YR3	YR4	YR5	Frequency and Reports	Data Collection Instruments	Responsibility for Data Collection
crustaceans									
Ship-based surveys and data collection to assess the potential of new and existing fisheries.	None.	Survey methodology developed, draft cruise plan produced	Finalization of cruise plan, 3 cruises completed	4 cruises completed	N/A	N/A	Quarterly and Annually	SWIOFP Reports	SWIOFP PMU National Executive Secretariats
Production of seven preliminary country reports and two to three consolidated sub-regional reports on status of crustacean fisheries	Some data available on stock dynamics, full baseline unknown	Study methodology developed	Baseline data collected	Baseline data collected	Data Analysis and seven draft reports produced	Dissemination of reports and finalization of 2 or 3 sub-regional reports	Quarterly and Annually	SWIOFP Reports Scientific Publications Stock Assessments	SWIOFP PMU National Executive Secretariats
Two pilot studies to optimize artisanal shallow-water lobster fisheries	None	Proposals developed and submitted	Two studies underway	Two studies underway	Studies completed	N/A	Quarterly and Annually	SWIOFP Reports Scientific Publications	SWIOFP PMU National Executive Secretariats
# of published articles based on SWIOFP survey data	None	Survey Design stage (see above)	Data Collection Stage	Data collection complete,	# of articles submitted for review	# of articles submitted for review		SWIOFP Reports Scientific Publications	SWIOFP PMU National Executive Secretariats
Component Three: Assessment and sustainable use of demersal fish									
Ship-based surveys and data collection to assess the potential of new and existing fisheries.	None.	Survey methodology developed, draft cruise plan produced	Finalization of cruise plan, 2 cruises completed	2 cruises completed	N/A	N/A	Quarterly and Annually	SWIOFP Reports	SWIOFP PMU National Executive Secretariats
Production of seven preliminary country reports and two t consolidated sub-regional reports on status of demersal fisheries	Some data available on stock dynamics, full baseline unknown	Study methodology developed	Baseline data collected	Baseline data collected	Data Analysis and seven draft reports produced	Dissemination of reports and finalization of 2 sub-regional reports	Quarterly and Annually	SWIOFP Reports Scientific Publications Stock Assessments	SWIOFP PMU National Executive Secretariats
# of published articles based on SWIOFP survey data	None	Survey Design stage (see above)	Data Collection Stage	Data collection complete,	# of articles submitted for review	# of articles submitted for review	Quarterly and Annually	SWIOFP Reports Scientific Publications	SWIOFP PMU National Executive Secretariats
Component Four Assessment and sustainable use of									

Results/Outcome Indicators	Baseline	Target Values					Data Collection and Reporting		
		YR1	YR2	YR3	YR4	YR5	Frequency and Reports	Data Collection Instruments	Responsibility for Data Collection
pelagic fish									
Ship-based surveys and data collection to assess the potential of new and existing fisheries.	None.	Survey methodology developed, draft cruise plan produced	Finalization of cruise plan, 2 cruises completed	3 cruises completed	N/A	N/A	Quarterly and Annually	SWIOFP Reports	SWIOFP PMU National Executive Secretariats
# of studies on migration and movement of selected large pelagic species (including sharks).	Tuna tagging program in place, data on movement of other large pelagics incomplete	Study methodology developed	Data Collection	Data Collection	Data Analysis		Quarterly	SWIOFP Reports Scientific Publications	SWIOFP PMU and National SWIOFP focal points
# of improved FADs tested and developed for large and small scale pelagic fisheries	Some work already underway	Study methodology developed	Data collection and testing of FADS	Data collection and testing of FADS	Draft finding produced	Assessment completed	Quarterly	SWIOFP Reports Scientific Publications	SWIOFP PMU and National SWIOFP focal points
Production of nine preliminary country reports and two to three consolidated sub-regional reports on status of pelagic fisheries	Some data available on stock dynamics, full baseline unknown	Study methodology developed	Baseline data collected	Baseline data collected	Data Analysis and seven draft reports produced	Dissemination of reports and finalization of sub-regional reports	Quarterly and Annually	SWIOFP Reports Scientific Publications Stock Assessments	SWIOFP PMU National Executive Secretariats
# of published articles based on SWIOFP survey data	None	Survey Design stage (see above)	Data Collection Stage	Data collection complete,	# of articles submitted for review	# of articles submitted for review	Quarterly and Annually	SWIOFP Reports Scientific Publications	SWIOFP PMU National Executive Secretariats
Component Five: Monitoring of Fishing Effort and Catch									
# of scientific sea observers trained	Limited national monitoring capacity	Training requests submitted	Procurement of training services	50 number of trained	50 number of observers trained	N/A	Quarterly	SWIOFP Reports	SWIOFP PMU and National SWIOFP focal points
Improvement in frequency and coverage of national monitoring activities in each countries	Limited national MCS activity	N/A	Assessment of monitoring capacity produced by each country (baseline)	Draft monitoring plans produced	Implementation of country monitoring plans	Implementation of country monitoring plans	Quarterly and Annually	Individual country reports forwarded to SWIOFP PMU	National Executive Secretariats SWIOFP PMU
Initiation of land based monitoring and data	Limited land based	N/A	Assessment of	Design of monitoring	Implementation of monitoring	Implementation of monitoring	Quarterly and Annually	Individual country reports	National Executive

Results/Outcome Indicators	Baseline	Target Values					Data Collection and Reporting		
		YR1	YR2	YR3	YR4	YR5	Frequency and Reports	Data Collection Instruments	Responsibility for Data Collection
verification systems in at least half of participating countries	monitoring		monitoring capacity produced by each country (baseline)	and data verification system drafted	and data verification system	and data verification system in at least half of SWIOFP countries		forwarded to SWIOFP PMU	Secretariats SWIOFP PMU
Initiation of discharge monitoring program in at least half of participating countries	Limited discharge monitoring	N/A	Assessment of monitoring capacity produced by each country (baseline)	Draft discharge monitoring program produced	Implementation of discharge monitoring program	Implementation of discharge monitoring program in at least half of SWIOFP countries	Quarterly and Annually	Individual country reports forwarded to SWIOFP PMU	National Executive Secretariats SWIOFP PMU
Aerial surveys and data collection to monitor fishing effort in select areas of the SWIO.	None	N/A	Survey methodology developed, draft aerial survey plan produced	2 of aerial surveys completed	N/A	N/A	Quarterly	SWIOFP Reports	SWIOFP PMU and National SWIOFP focal points
Initiation of a regional Vessel Monitoring System	No regional VMS system	N/A	N/A	Study on gaps in regional monitoring and potential for regional VMS	Study results and recommendations disseminated	Agreement and Adoption of regional VMS	Quarterly and Annually	Individual country reports forwarded to SWIOFP PMU	National Executive Secretariats SWIOFP PMU
Component Six: Mainstreaming biodiversity in national and regional fisheries management									
Six studies on interaction between commercial and non commercial marine resources or potential alternative livelihoods completed	None	Guidelines for research proposal developed and disseminated Regional meeting to define a detailed biodiversity assessment and management response workplan for overall component	Proposals received and around six grants awarded	Studies begin	Studies completed and results published and disseminated	N/A	Quarterly and Annually	Individual country reports forwarded to SWIOFP PMU	National Executive Secretariats SWIOFP PMU

Results/Outcome Indicators	Baseline	Target Values					Data Collection and Reporting		
		YR1	YR2	YR3	YR4	YR5	Frequency and Reports	Data Collection Instruments	Responsibility for Data Collection
Key marine species GIS mapped in each of eight SWIOFP countries (all except Réunion)	None	Methodology developed and species identified by country Regional meeting to define detailed biodiversity workplan for overall component	Data Collection	Data analysis and mapping	Eight country reports produced with results and data included in regional database	N/A	Quarterly and Annually	Individual country reports forwarded to SWIOFP PMU	National Executive Secretariats SWIOFP PMU
Key (#) bio-indicator species identified and relationships between target species and ecosystem health established	None	Methodology developed and species identified by country	Data Collection	Data Collection	Data analysis and baseline assessment produced and disseminated	N/A	Quarterly and Annually	Individual country reports forwarded to SWIOFP PMU	National Executive Secretariats SWIOFP PMU
By-catch assessment for major demersal, crustacean and pelagic fisheries. Assessment of effectiveness of excluding devices and recommendations for new fishing methods and devices	None	Methodology developed and species identified by country	Data Collection and pilot studies (research grants)	Data Collection and pilot studies (research grants)	Component reports produced, published and disseminated	Component reports produced, published and disseminated	Quarterly and Annually	Individual country reports forwarded to SWIOFP PMU	Coordinating country for Components 2, 3, 4
Mainstreaming biodiversity into national and regional management plans	None	Regional meeting to define detailed workplan for overall component	Data Collection and Analysis	Data Collection and Analysis	Component 2,3, & 4 harmonization meetings between countries	Production of fishery-level (demersal, crustacean and pelagic) action plan (a sustainable fisheries management framework) to mainstream biodiversity into national & regional mgt. Plans	Quarterly and Annually		
Component 7: Strengthening of National and Regional									

Results/Outcome Indicators	Baseline	Target Values					Data Collection and Reporting		
		YR1	YR2	YR3	YR4	YR5	Frequency and Reports	Data Collection Instruments	Responsibility for Data Collection
Fisheries Management									
Evaluation of national fisheries regulations and identification of areas where harmonization is needed	No regional picture of national fisheries regulations available	Documentation of legislation, protocols and guiding principles relevant to SWIOFP	National fisheries policies and regulations collated from countries	Draft report produced and harmonization workshops held	Harmonization workshops held within framework of SWIOFP annual meeting and SWIOFC	Harmonization workshops held within framework of SWIOFP annual meeting and SWIOFC	Quarterly and Annually	Individual country reports forwarded to SWIOFP PMU	National Executive Secretariats SWIOFP PMU
Establishment of working relationship and technical support between SWIOFP and Southwest Indian Ocean Fisheries Commission	SWIOFC established in early 2005	Participation in SWIOFC meetings, technical teams	Participation in SWIOFC meetings, technical teams	Participation in SWIOFC meetings, technical teams	Transfer of regional database/data atlas to SWIOFC		Quarterly and Annually	Individual country reports forwarded to SWIOFP PMU	National Executive Secretariats SWIOFP PMU
Establishment of regional PMU and national project offices	SWIOFP Secretariat functioning under project preparation	Regional PMU established, Procurement of equipment to nine countries and regional management office	PMU and National Offices fully operational	PMU and National Offices fully operational	PMU and National Offices fully operational	PMU and National Offices fully operational	Quarterly and Annually	Individual country reports forwarded to SWIOFP PMU	National Executive Secretariats SWIOFP PMU

Addendum 1 to Annex B: Monitoring and Evaluation

Objectives. The objective of the M & E system will be to ensure better planning, targeting, and feedback to participating countries and timely decision making in order to improve impact of project activities. The M & E system will also:

- Improve management of programs, subprojects and supporting activities
- Ensure optimum use of funds and other resources draw lessons from experience so as to improve the relevance, methods and outcomes of cooperative programs
- Strengthen the capacity of national fisheries management agencies to monitor and evaluate
- Improve the mechanism for fisheries statistics production and stock assessment information analysis, storage and dissemination
- Improve the scientific knowledge base on which domestic, regional and international resource management policies and decisions rely
- Improve information sharing systems and enhance advocacy for policies, programs and resources that improve management of transboundary fisheries and related biodiversity processes.

Performance Indicators. Monitoring and evaluation of project implementation will be guided by the performance indicators developed in the results framework and the targets set in annual work plans to track progress under both international waters and biodiversity focal areas.

Monitoring and Evaluation Arrangements. The Regional Executive Secretariat will maintain primary responsibility for M & E during project implementation. The Regional Secretariat will have a direct responsibility for monitoring implementation of project activities at the regional level and a supervisory role in monitoring implementation at the national level by the nine National Secretariats. The Regional Executive Secretariat, National Secretariats and component managers will be responsible for reporting on performance based on the performance indicators developed in the results framework and the targets set in annual work plans, on a quarterly and annual basis. The Regional Executive Secretariat will consolidate reports and forward them to the Regional Management Board, Project Steering Committee and GEF/World Bank⁶. The Regional Executive Secretariat will maintain an information database linked to the Management Information System (MIS) and the results framework which will allow the project to assess and report on the quality and quantity of work at each level of implementation.

The performance of the Regional and National Secretariats will be assessed annually by the Regional Management Board and Regional Steering Committee as well as through periodic supervision visits by the GEF/World Bank. At the project mid-point, a mid-term review will be carried out to evaluate implementation progress. At project end, an implementation completion report will be prepared to assess project impact and the degree of success on achieving project objectives. Overall, the project will assess its project management systems and procedures in respect of their relevance, effectiveness, efficiency and impact on both the national and regional levels. This will be carried out through input, process, output, outcome and impact tracking indicators which have been developed within the results framework.

Reporting formats and procedures will be developed in greater detail in the Project Implementation Plan, which will be a requirement for project effectiveness.

Monitoring and Evaluation within project design. In addition to the specific monitoring and evaluation arrangements that will take place as part of project management, M & E will be an integral part of project activities and have been built into project design. Project outputs that include baseline data collection will be used to measure progress during project implementation and beyond. In addition, specific M&E

⁶ For a fuller description of the project management structure see Annex 6: Implementation Arrangements.

activities have been defined within components 1, 5 & 6. The first project component, Data and Information Technology, will evaluate the historical and current knowledge of transboundary fisheries to identify knowledge gaps to be filled by the project. In doing so, the project will establish a baseline that will be used to measure progress over the following four years of the project. The data collection and analysis of specific fisheries and related biodiversity processes that will take place in components two, three and four (crustacean, demersal and pelagic fisheries assessments) will establish baselines for the nine countries participating in the project, allowing better monitoring of fisheries in the future. The sixth component, which will measure fisheries impacts on other non-commercial marine species, as part of efforts to mainstream biodiversity within the fisheries management agenda, will also establish baselines for key species and develop metrics for bio-indicator species to monitor overall ecosystem health. Specific capacity strengthening will occur through the inclusion of M&E elements into training activities in all components.

The GEF guidance for M&E (the GEF International Water Monitoring and Evaluation Framework) in IW projects which distinguishes the three types of indicators: Process Indicators (PI), Stress Reduction Indicators (SRI) and Environmental Stress Indicator (ESI), will be used to guide the finalization of the M&E system at project appraisal, and made ready by the time of CEO endorsement. Under the biodiversity focal area, the WWF tracking tool/METT will be used for monitoring and evaluation of project outcomes, and will be fine-tuned and customized to fit with the context of the participating countries. Broadly speaking two kinds of information will be required: ecological data (bio indicators, biodiversity threat levels etc.) to monitor the impact of conservation measures taken, and project performance data (surveillance effort, consultation effort, revenue levels, financial investments, etc.) to monitor progress of project implementation.

ANNEX C: RESPONSE TO PROJECT REVIEWS

- a) Convention Secretariat: No comments were received from the Convention Secretariat prior to WP inclusion.
- b) Response to comments from Secretariat and other Agencies: Comments from the Secretariat at pipeline entry were addressed at that time. Responses to comments raised in the review sheet of July 6, 2005 are detailed below.
- c) Review by expert from STAP Roster: The review and responses to the review comments are attached below.

ANNEX B: RESPONSES TO GEFSEC COMMENTS (REVIEW SHEET OF JULY 6, 2005)

Comment: stakeholder involvement plan should be ready by endorsement

Response: It may be noted that a Stakeholder Participation plan has been developed for the project. The same will be fine-tuned further at appraisal to be ready by CEO endorsement (see Annex 17 of the Project Brief).

Comment: M & E plan details and indicators ready at appraisal

Response: An M& E plan has been developed for the project, which would be further refined at appraisal (see Annex B of this Executive Summary and Annex 3 of the Project Brief).

Comment: cofinance documented at time of endorsement.

Response: Commitments for cofinancing will be provided at CEO endorsement.

Comment: No more than \$9 mil is available in the IW focal area due to headroom considerations. Three of the components of the project have strong biodi linkages and might be supported by the bioid focal area. Work should be undertaken to work with Biodi staff to have this properly handled for biodi eligibility.

Response: In line with various discussions with GEFSEC and within the Bank-GEF team, the project now includes a biodiversity dimension which will contribute to GEF Biodiversity Focal Area #2 (Coastal, marine and Freshwater Ecosystems), and Strategic Priority#2-*Mainstreaming biodiversity conservation in production systems*. Incremental benefits amounting to US\$3 million for the biodiversity component of the project have also been clearly defined.

ANNEX C : STAP REVIEW AND RESPONSE TO REVIEW
STAP Review of the Project entitled:
Southwest Indian Ocean Fisheries Project

Prepared by
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Economic Research Bureau

June 10, 2005

1.0 Introduction

GEF's overall global environmental objective is to address environmental problems that have global consequences regardless of how they have been created. So, the GEF's mission is to assist developing countries and transition economies, with implementing projects that lead to global environmental benefits in four areas: climate change, biodiversity conservation, protection of international waters and protection of the Ozone layer. In order to achieve its goals, GEF has created some 15 operational programmes (OPs) with specific objectives. The SWIOFP proposal deals with GEF areas of concern namely OP8, which focus on Water body-based operational program (international waters) respectively. This window provides the needed support for those activities, which will go on to bring about the desired change in the activity areas for achieving a sustainable development path. The OP8 window's long term objective is *to undertake a series of projects that involve helping groups of countries to work collaboratively in achieving changes in sectoral policies and activities so that Tran boundary environmental concerns degrading specific water bodies can be resolved*. In reviewing the proposed activities in this GEF relevant area, STAP has a set criteria for evaluation of proposalsⁱ, which are meant to ensure that the implementation of such proposed projects won't bring about adverse impacts to the environment or contribute to degradation instead of positive enhancement of the environment in terms of Biodiversity degradation and marine fishery devastation in international waters. This review report is presented in three main sections namely; general observations, comments following specific TOR concerns categories and finally conclusions.

2.0 General Observations and comments

2.1 Project Approach

The proposed SWIOFP document brings out an innovative challenge to management of Tran boundary resources particularly in the way the three GEF implementing institutions namely the World Bank, UNEP and INDP come together each in its own focus to work in the same LME. The document highlights several benefits for do so being among others to explore synergies among the institutions and utilise the various expertise and experiences of these institutions but also to facilitate continuity of activities within the ASCLMEs with one activity feeding into the other. However, there are also risks to be borne by such a bold

approach as will be elaborated later on. The attempt to involve a total of eight (8) developing countries to come together in terms of managing the common resource for their individual and global benefit in terms of sustainable resource utilisation and management is impressive and quite a daunting task indeed, particularly considering the resource constraints and a myriad of problems (social economic, political unrest and instability in some of these countries, and even threats to both terrestrial and marine environmental integrity due to various reasons). However, there is no short cut to achieving trans-boundary resources sustainability without bringing together the countries involved. This is a challenge, which has to be met for the sake of sustainability of human kind on earth.

2.1 Presentation

Reading through the document one finds two regions being discussed interchangeably i.e. WIO and SWIO to the extent that it becomes difficult to distinguish whether the document differentiates them or takes them to be synonymous (e.g. A. 1. (b) Paragraph 2 on page 7). It is true that most of the countries in WIO are also in SWIO, something that complicates matters in terms of Tran boundary resources analysis in this region, however, there is a need to clarify and distinguish the two geographical regions so that it becomes clear when we mean one or the other.

A

2.2 SWIOFP Global Objectives and Key Indicators

The Global Environmental Objective of SWIOFP is to promote the environmentally sustainable use of fish resources and adoption of an ecosystem approach to fisheries management in the Agulhas and Somali LMEs. The Project will be measured by the following performance indicators:

- Production and adoption of a joint regional fisheries TDA and SAP by all nine countries participating in project
- Production and adoption of a at least one sub-regional management plan (including policy, institutional and legal framework) governing ecosystem-based management of a specific transboundary fisheries for each of the three species categories of the project (crustacean, demersal, pelagic)
- Adoption by all SWIOFP countries of a monitoring and evaluation framework (including agreed upon environmental status and stress reduction indicators) that defines ecosystem health within the framework of a regional management institution (possibly the SWIOF Commission) legally mandated to undertake this function

2.3 SWIOFP Development Objectives and Key Indicators

The SWIOFP has three specific Development Objectives: (i) To identify and study exploitable offshore fish stocks within the SWIO, and more specifically to

become able to differentiate between environmental and anthropogenic impacts on shared fisheries; (ii) To develop institutional and human capacity through training and career building. (iii) To develop a regional fisheries management structure and associated harmonized legislation in collaboration with the SWIOFC

Project will be measured by the following performance indicators:

- Adoption of at least one national or multi-national management plan for a specific demersal, pelagic or crustacean fishery by each country participating in the project
- Regional fisheries database fully operational and inclusive of new and historic data
- Production of baseline assessment (accompanied by database) that defines current status of relevant crustacean, demersal and pelagic fisheries in each of the participating SWIOFP countries
- Production of individual country fisheries TDAs and SAPs for the eight countries benefiting directly from SWIOFP (all except Réunion/France)

In general, the proposed project has made great effort to address the objectives, which it has set out to achieve. It is well thought through and considers most of STAP concerns from conception to implementation

2.4 Eligibility

All of the 8 countries participating in this project are signatories to the Law of the Sea (UNCLOS), which includes comprehensive coverage of important issues. The treaty covers issues pertaining to:

- Limits of maritime zones (territorial seas, contiguous zone, exclusive economic zone, continental shelf)
- ♦ Rights of navigation, including through straits used for international navigation
- Peace and security on the oceans and seas Conservation and management of living marine resources
- Protection and preservation of the marine environment
- Scientific research
- Activities on the seabed beyond the limits of national jurisdictions

These aspects within the UNCLOS are all relevant to the present project and therefore being signatories to this treaty, the participating countries legitimise their involvement into the project and make it easier to manage the collaboration.

2.5 Incremental Cost Analysis

The GEF operational strategy explicitly recognizes the importance of removing barriers to the developments that incorporates global environmental benefits.

The Global Environmental Objective of SWIOFP is to promote the environmentally sustainable use of fish resources and adoption of an ecosystem approach to fisheries management in the Agulhas and Somali LMEs for both the territorial and Transboundary resources. Furthermore since this project proposal deals with international waters, improved management of Trans boundary species is seen to potentially bring about the achievement of this objective. Incremental costs are determined for components 1 to 7 of the project, which deal explicitly with GEFs Operational Programmes (OP) 8. The GEF incremental cost finance is targeted to assist countries to better understand fisheries related issues in their international water and work collaboratively to address them, build capacity of existing institutions or introduce new arrangements and to implement sustainable measures that address priority Tran boundary fisheries issues.

Baseline of SWIOFP is estimated at US\$ 110.7 million while the GEF alternative, which includes ASCLMEs Project and SWIOFP, is costed at US\$ 145.8 million. The total incremental cost for the project is estimated at US\$ 35.1 million of which GEF will fund 42.7% (US \$ 15 million) and the rest to be met by co-financing from recipient and donor countries in terms of equipment, facilities and staff (mainly vessel time) from Norway, Sweden, FAO, France and South Africa and also government contributions from all 8 participating countries (See table 5). This is a commendable arrangement, which promotes collaboration, ownership and facilitates sustainability.

In table 4 of the project brief, breakdown of GEF alternative by component is given (see below).

Table 4. Breakdown of GEF Alternative by component

Component	Baseline Cost (US\$)	Incremental				Total GEF Incremental (US\$)	Total GEF Alternative (Baseline + Incremental)
		GEF Financing	Gov. Contribution	Other Financing			
1: Data and Information Technology	2.28	2.9	0.86	0.85	4.61	6.89	
2: Assessment and Sustainable Use of Crustaceans	14.1	4	0.46	3.27	7.73	21.83	
3: Assessment and Sustainable Use of Demersal Fish	14.52	4	0.48	3.62	8.1	22.62	
4: Assessment and Sustainable Use of Pelagic Fish	39.23	1	0.5	2.3	3.8	43.03	

Component	Baseline Cost (US\$)	Incremental				Total GEF Alternative (Baseline + Incremental)
		GEF Financing	Gov. Contribution	Other Financing	Total GEF Incremental (US\$)	
5: Monitoring of fishing effort	29.79	1	0.1	3.07	4.17	33.96
6: Interaction between Fisheries and non-consumptive resources	5.25	0.5	0.1	1.65	2.25	7.5
7: Strengthening Regional Project Management	5.51	1.6	0.1	2.75	4.45	9.96
Total	110.68	15.0	2.60	17.51	35.11	145.79

All the incremental costs to be covered by GEF are well justified in that all activities assigned to this money are trans-boundary in character. However, SWIOFP component 5: monitoring of fishing effort and catch is closely related to OP 8 of MACEMP⁷. In MACEMP a total of US\$ 5.13 million incremental cost was allocated from GEF for improving information regarding international fish stocks in Tanzania among others. A closer working relationship needs to be investigated in order to maximize the synergy from these two projects.

3.0 Specific STAP concerns

3.1 Scientific and technical soundness of the project

- The project acknowledges the paucity of data in this area and hence it is **essentially** designed to provide a baseline for the first 18 months and proceed forth to monitor the changes during implementation of the measures instituted by the project. Therefore the project is essentially designed to generate more information for the management of trans-boundary fishery resources.
- The data collection process is shown to be scientifically sound through the use of experts in the field following well established procedures of scientific information of this kind with the aid of well equipped research vessels to be provided by various institutions within and outside the region (Norway, Sweden, South, and France among others).
- The project fully determines the kind of sectoral changes needed to achieve the goals of the OP8? **Yes, institutional both at national and regional levels**
- The inter-comparability of data has been addressed. A workshop consisting of all SWIOFP countries will be held at which a conceptual, harmonized, data gap analyses (by type of fishery, i.e. demersal, pelagic,

⁷ MACEMP Project Appraisal Document, November 2004. World Bank, Tanzania Country Office.

invertebrate) will be undertaken leading to synthesis of a year-by-year data collection program.

- Analysis of the interlink ages between water-related environmental issues and root causes behind different environmental problems.

This has come out clearly as stated in the development objectives. Annex 18 matrix of threats, root causes and solutions provides a clear interlink between water related environmental issues and their root causes. Moreover, it is proposed that competitive grants will be given out to local institutions and experts to study the various components of the project. This then may come out with the required information for root causes of the different environmental problems. This is a good approach and will further facilitate capacity building in terms of providing opportunities for local experts to deal with these types of problems and increase their capability in managing the trans-boundary fisheries resources.

- The project determines the type of measures needed to ensure that the ecological carrying capacity is not exceeded. The project brief proposes studies to identify problems and their linkages and therefore provide basis for decision-making. This provides part of the solution. Since it works in conjunction with other projects ASCLMEs Project and WIO-LaB, they may accommodate the other measures.
- The scope of the project is more than adequate. The project covers 8 developing countries within this region all of which have participated in the initial consultations and no country within this area has been left out.

3.2 Question related to the use of technology:

- To what extent will technological innovations be used to support the project?

Technological aspects are found in the assessment of stock in the SWIO mainly research vessels with the necessary gadgets for fish stock assessment. However, the project envisages developing and testing a better way of harvesting in order to minimise by-catch and damage to seabed. This is a welcome step aimed at facilitating economic activity while safeguarding the environment in which the resource is found for sustainability's sake.

3.3 Institutional and Implementation Arrangement

- The role of existing scientific institutions in the development and sustainability of regional mechanism is of paramount importance. Institutional arrangements have been considered and are at the root of capacity building for them to implement the project. The project aims to a large extent to utilising country institutions and experts for carrying out most of the activities of the project. That is why consideration for identifying local expertise for capacity building purposes and sustainability of the project activities has been given priority which is important for sustainability of the activities.
- Implementation of the project is done collaboratively with other two projects of ASCLMEs Project and WIO-LaB. It is proposed that some of the outputs from ASCLMEs Project and WIO-LaB will feed into the SWIOFP. This is a good thing if all works well since it has benefits in terms of maximising use of related activities in the region effectively and also maximise the synergies among implementing agencies for a common interest ecosystem approach outcome. There is however, a high risk of delay and even failure in those components dependent on these inputs, if plans are not implemented timely and as expected

- SWIOFC is an institution in its initial days for coordinating activities in this region and is deemed appropriate to carry over the activities of the temporary SWIOFP institutional setting at the regional level. This provides a good opportunity for continuity of this important task.
- Issues of conflict have been addressed in terms of risks; however, boundary conflicts have not been explicitly discussed. Is it because the planning phase was participatory? It might also be assumed that the Law of the Sea framework will take care of that.

3.4 Identification of the global environmental benefits

- GEF funds have been committed for activities demonstrating clear global benefits and are described in more detail in the incremental cost matrix (Table 6). The economic and financial analyses done for the project also clearly identify the project benefits (see Annex 9). The benefits include new data on Tran boundary species and regional oceanographic characteristics; regional data atlas featuring both new and historical data and identifying data gaps; sharing of data through establishment of regionally based IT infrastructure accessible to SWIO countries and stakeholders. Additionally, data on biological, bathymetric and oceanographic. Data collected will lead to increased understanding of ecosystem impacts of crustacean fisheries, particularly by catch and discards. Data will establish Tran boundary migration patterns and regional species baselines. Collection of regional data on stock characteristics to underpin decision making on regional management. Reductions in by catch and discard due to gear improvements; greater understanding of stock dynamics of non-tuna large pelagic species (swordfish, bigeye) and other small and super small pelagic. Collection of regional data on stock characteristics to underpin decision making on regional management. This information will facilitate in decision making planning and management for sustainable utilization of trans-boundary fishery resources which will result into benefits to countries involved in the WIO but also fishing nations in terms of a sustainable source of fisheries resources. These are adequate benefits to invest for.
- Are any negative environmental effects anticipated?
SWIOFP does not pose any negative environmental effect by its implementation since this is not a consumptive activity. The envisaged interaction with the natural environment and ecology of the study area is not expected to bring about damage to the environment.

3.5 How does the project fit within the context of the goals of GEF

- The project fits well within the overall strategic thrust of the GEF- funded IW activities to meet the incremental costs of: (a) assisting groups of countries to better understand the environmental concerns of their laws and work collaboratively to address them; (b) build the capacity of existing institutions; and (c) implement measures that address the priority Tran boundary environmental concerns. The project sets forth to collect data and establish a depository for the region to monitor the Tran boundary environment and its resources. To do this, it proposes capacity building

3.6 Regional context

Well covered.

3.7 Replicability of the project

- This aspect has been addressed by the project. Replicability seems to apply to sub-regional projects in terms of capacity building, mainstreaming ecosystem-based management and promotion of regionalisation of shared fisheries resources.
- Another area to consider will be the scope of replicability in terms of implementation approaches in other international water bodies i.e. the three GEF implementing agencies collaborating to implement GEF projects in one area or region. If this works, it has multiple dividends in terms of pooling together various expertise and experiences together to address common issues in the ecosystem based trans-boundary resources management.

3.8 Sustainability of the project

- Financial resources are envisaged to come from a revenue-generating scheme based on the use of EEZ marine resources in an environmentally and socially sustainable way. This will provide for the permanent funding of resource management and scientific assessment of the trans-boundary fisheries resources. However, allocation of this money to these activities is left in the hands of national governments of developing countries who have many priority problems to deal with at one time and the EEZ revenue is just another source of revenue for the treasury. There exists a risk therefore that given a myriad of priorities; the anticipated allocation of adequate funds for the management and scientific assessment of trans-boundary resources may not be forthcoming. There is a need to create a mechanism, which will ensure this money is allocated to the activities.
- Institutionally, the SWIOFC is envisaged to carry out activities of the projects regional institutional setting after the project period. This then facilitates the regional coordination beyond the SWIOFP project life.

3.9 Secondary issues

- Most IW projects have outspoken linkages with the biodiversity focal area, and to land degradation. [This is done through working with 2 other GEF projects namely ASCLMEs Project and WIO-LaB](#)
- Related conventions and agreements in other areas increase the complexity. These initiatives provide a new opportunity for cooperating nations to link many different programs and instruments into regional comprehensive approaches to address IWs. Relevant conventions have been considered and taken into account in the project. Table 10 of annex 17 provides SWIOFP country profiles with respect to international agreements, adhesions and membership. These include, UNCLOS, Nairobi convention (UNEP), FAO Code declaration among others.
- Membership to different groupings and organisations is also given. What is needed is the discussion of possible threats in belonging to multiple groupings and the possible complications of differences in groups

- The proposed activity by SWIOFP is consistent with existing national plans. Table/ Figure 2: of the project brief (page 35) on Linkages between SWIOFP and National Development Plans, provides various initiatives, policies, strategies and regulations supporting the activity of SWIOFP.

3.10 Degree of involvement of Stakeholders in the project

- Because of the area-wide interventions, community involvement and stakeholder participation are especially important in OP 9. However, SWIOFP is mainly a scientific operation and targets a resource not generally utilized by local communities or stakeholders. It targets a resource that is generally exploited by distant fishing fleets charged a resource rental by the various countries to access the resource. As such, community involvement is not a major part of the Project. However, communities do feature in the design of the project as consumers of results of the project and may also benefit from the outcomes of the project. Therefore, it ought to be mentioned in which way they will benefit and how the anticipated results will be conveyed to them.

3.11 Capacity building aspects

- Capacity building is an important component in international waters projects. Institution building plays a crucial role, and specific capacity-strengthening measures are required to assist countries in finding the appropriate institutional and organizational matters.
- SWIOFP (and the other sister projects under the ASCLMEs) are unusual in that the objective of the operation is to collect sufficient information to make a TDA/SAP possible, and then formulate these documents as a ASCLMEs Program output. The capacity building requirements needed to undertake the data collection and TDA/SAP analyses for the project has been considered but not addressed. Under the risk analysis capacity building was seen as a substantial risk and that it has to be addressed. The project is designed to engage in capacity building for regional fisheries management. Development objective (ii) aims to develop institutional and human capacity through training and career building. In component 5, capacity building is one of the inputs (input iv). The first phase of the project which about 18 months capacity building will be initiated. However, this issue may be further addressed by providing the necessary details such as what type of capacity building (short courses, degree courses etc), at what level and how it is going to be implemented. If this information is not available at present, then it ought to be mentioned that, **capacity needs assessment** will be undertaken to identify what type of capacity is needed.

3.12 Assessment of the innovativeness of the project.

- The project implementation is very innovative and challenging indeed. Need synchronization and sequencing of activities so that outputs from one initiative by one implementing agency will feed into the other agency's programme timely. Safeguards need to be drawn in case the planned

3.13 Conclusion

- The SWIOFP Brief has addressed most of the review of questions satisfactorily according to GEF's operational programme 8 and strategy and global environmental objectives as provided by the GEF TOR. The project however, needs to address the few comments and suggestions made in the review.

RESPONSE TO STAP REVIEW

Issue 1: one finds two regions being discussed interchangeably i.e. WIO and SWIO to the extent that it becomes difficult to distinguish whether the document differentiates them or takes them to be synonymous (e.g. A. 1. (b) Paragraph 2 on page 7). It is true that most of the countries in WIO are also in SWIO, something that complicates matters in terms of Tran boundary resources analysis in this region, however, there is a need to clarify and distinguish the two geographical regions so that it becomes clear when we mean one or the other.

Response: The point is valid. As SWIOFP is addressing only a part of the West Indian Ocean, we will define the geographic study area (the 6.4 million km² in which data collection will occur) in the summary of abbreviations and ensure that use of the term "Southwest Indian Ocean" in the Project Brief only refers only to the Project study area.

Issue 2: All the incremental costs to be covered by GEF are well justified in that all activities assigned to this money are trans-boundary in character. However, SWIOFP component 5: monitoring of fishing effort and catch is closely related to OP 8 of MACEMP⁸. In MACEMP a total of US\$ 5.13 million incremental cost was allocated from GEF for improving information regarding international fish stocks in Tanzania among others. A closer working relationship needs to be investigated in order to maximize the synergy from these two projects.

Response: The assessment of regional fishing pressure included under Component 5 of SWIOFP has a different objective than the Monitoring, Control and Surveillance activities funded in Tanzanian waters under MACEMP. SWIOFP is attempting to estimate total fishing pressure over the entire "study area" on a seasonal basis. MACEMP is funding a "control" activity designed to ensure compliance with access rights agreements in place between the United Republic and distant fishing fleets that have purchased access rights. While SWIOFP information might be used for control purposes, the fishing pressure survey is really meant to provide regional

⁸ MACEMP Project Appraisal Document, November 2004. World Bank, Tanzania Country Office.

information about total pressure on large pelagic stocks to allow better decisions to be made about license agreements and sustainable exploitation on an offshore fisheries resource.

Issue 3: Issues of conflict have been addressed in terms of risks, however, boundary conflicts have not been explicitly discussed. Is it because the planning phase was participatory? It might also be assumed that the Law of the Sea framework will take care of that.

Response: There are certainly risks of boundary conflicts. However, these risks will be mitigated by development of a Memorandum of Understanding (currently being drafted by the Government of South Africa for circulation and adoption by all other SWIOFP countries) that covers direct risk to implementation of the Project. This will include rights of access by Project vessels and aircraft, staff (government and consultant) working on SWIOFP activities, ownership of data, and other possible sources of conflict between countries. Risk of conflict at a larger level that is independent of SWIOFP is a risk over which the Project has no control. However, as SWIOFP is a scientific activity and serious conflict at the political level does not appear great at the moment, we believe this risk is manageable.

Issue 4: There exists a risk therefore that given a myriad of priorities; the anticipated allocation of adequate funds for the management and scientific assessment of trans-boundary resources may not be forthcoming. There is a need to create a mechanism, which will ensure this money is allocated to the activities.

Response: This is a very important and valid concern. One of the objectives of this science-based project is to be able to better define the value of the offshore fishery resource. Once that is available, it becomes possible to determine an amount of money that would be appropriate to spend on managing the resource to ensure sustainability. The follow-on phase of SWIOFP would look at and promote mechanisms (such as the Fisheries Levee Retention Schemes in place or proposed in a number of SWIOFP countries) to ensure management at the regional and national levels are adequately funded.

Issue 5: However, communities do feature in the design of the project as consumers of results of the project and may also benefit from the outcomes of the project. Therefore, it ought to be mentioned in which way they will benefit and how the anticipated results will be conveyed to them.

Response: The main stakeholder assessment for the ASCLMEs Program is the responsibility of ASCLMEs Project (UNDP was assigned assessment of ecological characteristics of the 200 mile EEZ's and coastal areas of all countries participating in the Program). As such, stakeholder assessment has much more relevance to ASCLMEs Project than directly to SWIOFP. However, the point raised is valid and due consideration will be given to include additional explanations of how investment

in fisheries and fisheries management in the 200 mile EEZ's of participating countries could benefit citizens of these countries.

Issue 5: The capacity building requirements needed to undertake the data collection and TDA/SAP analyses for the project has been considered but not addressed. Under the risk analysis capacity building was seen as a substantial risk and that it has to be addressed. The project is designed to engage in capacity building for regional fisheries management. Development objective (ii) aims to develop institutional and human capacity through training and career building. In component 5, capacity building is one of the inputs (input iv). The first phase of the project which about 18 months capacity building will be initiated. However, this issue may be further addressed by providing the necessary details such as what type of capacity building (short courses, degree courses etc), at what level and how it is going to be implemented. If this information is not available at present, then it ought to be mentioned that, capacity needs assessment will be undertaken to identify what type of capacity is needed.

Response: Necessary reference will be made in the Project Brief to a detailed capacity assessment consultancy to develop a regional training needs assessment to be undertaken during the first year of the Project.

Issue 6: The project implementation is very innovative and challenging indeed. Need synchronization and sequencing of activities so that outputs from one initiative by one implementing agency will feed into the other agency's program timely. Safeguards need to be drawn in case the planned implementation does not materialise as expected in terms of timing and adequacy.

Response: It is very hard to plan and make contingencies in advance for "unexpected" problems. The ASCLMEs provides several opportunities for fixing problems "on the fly". These include a Program Coordination Committee comprised of the ASCLMEs Project Steering Committee and the Managers of each Project SWIOFP National Management Unit. We have also budgeted for harmonization meetings at the operational and management levels within the ASCLMEs Project and SWIOFP. Finally, many of the managers and scientists participating in ASCLMEs Project, SWIOFP and WIO-LaB are the same people. While no system is fool proof, we have tried to build funds into the ASCLMEs to allow Project and component leaders to deal with unexpected problems as they occur.

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ⁱ See TOR in appendix 1