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E4625 V3

Ministry of Livestock and Fisheries Development
United Republic of Tanzania

FIRST SOUTH WEST INDIAN OCEAN FISHERIES GOVERNANCE AND SHARED GROWTH PROJECT – SWIOFish

ENVIRONMENTAL AND SOCIAL ASSESSMENT (ESA)

and

ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK (ESMF)

August 11, 2014

Prepared by:
Richard Everett
with
Julitha Mwangamilo
Mwanahija Shalli (PhD)

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List of Acronyms and Abbreviations

BMU	Beach Management Unit
CFMA	Collaborative Fishing Management Areas
DEMO	District Environmental Management Officer
DFO	District Fisheries Officer
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
ESA	Environmental and Social Assessment
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
FSDP	Fisheries Sector Development Program
GEF	Global Environment Facility
ICM	Integrated Coastal Management
IDA	International Development Association
	Illegal, Unreported, and Unregulated Fishing
LEA	Limited Environmental Assessment
LGAs	Local Government Authorities
MMAs	Marine Management Areas
MACEMP	Marine and Coastal Environment Management Project
MFL	Ministry of Fisheries and Livestock Development (Zanzibar)
MLFD	Ministry of Livestock and Fisheries Development (Mainland Tanzania)
M&E	Monitoring & Evaluation
MPAs	Marine Protected Areas
MPRU	Marine Parks and Reserves Unit
NEMC	National Environment Management Council
OP/BP	Operation Policy/ Bank Policy
PDO	Project Development Objective
PECCA	Pemba Channel Conservation Area
PF	Process Framework
PLUM	Participatory Land Use Management
PRA	Participatory Rural Appraisal
RAP	Resettlement Action Plan
RPF	Resettlement Policy Framework
SHC	Shehia Fishermen's Committee (also known as Village Fishermen's Committee -VEC)
SMS	Subject Matter Specialist
SWIOFC	South West Indian Ocean Fisheries Commission
SWIOFP	South West Indian Ocean Fisheries Project
TAFIRI	Tanzanian Fisheries Research Institute
ToR	Terms of Reference
URT	The United Republic of Tanzania
VFC	Village Fishermen's Committee, also known as Shehia Fishermen's Committee (SHC)
WB	The World Bank
WWF	World Wide Fund for Nature

Executive Summary

Mainland Tanzania and Zanzibar have rich marine and coastal resources which provide a livelihood and major food source for many of the estimated 16 million people living in the coastal areas or on the main islands of Zanzibar and Tanzania. However those resources, particularly fisheries are being overexploited, and harvests are beginning to fall. The government of Tanzania seeks to improve fisheries management and improve the economic benefits that come from the fisheries and mariculture sectors, through participation in a new regional World Bank regional fisheries governance program, the **First South West Indian Ocean Fisheries Governance and Shared Growth Project (SWIOFish1)**.

Tanzania intends to use the technical assistance and funding from the World Bank to improve its ability to capture data on its fisheries resources, perform monitoring surveillance and control activities to improve its tax collection efforts from international offshore fishers, as well as benefit from the considerable migration that takes place among fishers from different countries.

Required as a condition of World Bank funding, this document is the Environmental and Social Assessment (ESA) for the First South West Indian Ocean Fisheries Governance and Shared Growth Project (SWIOFish1) project planned for the United Republic of Tanzania, which includes the coastal and marine zones and economies of Mainland Tanzania and Zanzibar.

The SWIOFish1 Project Development Objective (PDO) is to improve the management effectiveness of selected priority fisheries at the regional, national and community level, ideally in all the 11 countries that make up the South West Indian Ocean (SWIO) Region. Tanzania is one of the first SWIO countries to participate in the initial rollout of SWIOFish1.

The overall objective of the Environmental and Social Assessment (ESA) is to evaluate the biophysical and socio-economic impacts of the SWIOFish1 project, and to develop an Environmental and Social Management Framework and Involuntary Resettlement Process Framework to manage these impacts in a way that meets national requirements and World Bank Safeguard policies. The Process Framework is presented in a separate document.

There are four components in SWIOFish1. Component 1 includes a series of activities that will be implemented in individual SWIO countries but focused on regional cooperation. It is anticipated that all SWIO countries, including Tanzania, will participate in this activity.

The other three components have common objectives for all participating SWIO countries, but will have country-specific project activities. This ESA focuses strictly on the component activities being implemented in Tanzania and Zanzibar.

Component 1: Enhanced regional collaboration. (*Comoros, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, Somalia, South Africa, Tanzania, Yemen, Maldives, France , IOC - US$3.0 million IDA grant* **)** The first component focuses on supporting coordination and cooperation for the management and sustainable development of fisheries in the South West Indian Ocean (SWIO). Component 1 includes two activities:

Component 2: Improved governance of priority fisheries (Tanzania: US$17.4 million IDA, US$5.0 million GEF). This component primarily targets policies, strategies institutions and legal frameworks, and actions by the public sector and coastal communities necessary to improve priority fisheries management and performance and marine environmental health.

Component 3: Increased economic benefits to the region from priority fisheries (Tanzania: US$10.1 million IDA). This component primarily targets enabling the region's private sector productivity and investment, and public investments critical to a viable private sector.

Component 4: Project Management and Coordination (Tanzania: US$3.5 million IDA)**:** This component will support country-level implementation and management, monitoring and evaluation at regional and country level and regional project coordination and implementation. It will operate through Regional and National Steering Committees (RSC/NSCs) and Regional and National Management Units (RMU/PMUs).

The primary Project beneficiaries in Tanzania are the coastal artisanal fishing communities on the Mainland and islands of Tanzania and Zanzibar. These communities include small scale commercial fishers, fish and seaweed farmers, households where fishing makes up a substantial part of their livelihoods and subsistence fishers. Women make up roughly half of this labor force, working in processing and marketing, onshore collection of marine organisms and seaweed farming, as well as managing household finances and savings. In addition, there are producer and professional organizations, industry or fisher organizations and local co-management institutions (including Beach Management Units (on Mainland) and Shehia Fishermen's Committees (SFCs, also known as Village Fishing Committees or VFCs) in Zanzibar who are also targeted by this project.

Based on a review of project preparation documents, lessons learned from the MACEMP project, and consultations on the ground, the project will trigger three World Bank Safeguard Policies:

Environmental Assessment (**OP/BP 4.01):** The World Bank requires an environmental assessment of projects receiving Bank financing to help ensure that they are environmentally sound and sustainable. This safeguard is typically triggered in projects where the work will affect, temporary or permanently, the natural environment and/or society, through direct, indirect, or cumulative impacts. The Safeguard is triggered by SWIOFish because the project will have impacts, albeit largely positive ones, on the environment through improved management of priority fisheries.

Natural Habitats (OP/BP 4.04) This Safeguard Policy exists to protect, maintain, and restore natural habitats and their biodiversity, particularly in protected areas or critical habitats, as well as to ensure sustainability of services and products which natural habitats provide to human society. This Safeguard Policy is triggered because the project is expected to have significant but positive impacts on coastal and marine environments, through better management of fish stocks and the fisher community activities, and reduction of harmful illegal and destructive practices such as dynamite fishing.

Involuntary Resettlement (OP/BP 4.12): OP4.12 is triggered because access restriction that may be proposed as part of the project may lead to the "involuntary restriction of access to legally designated parks and protected areas resulting in adverse impacts on the livelihoods of the displaced persons." While it is not anticipated that any SWIOFish project subcomponent would lead to resettlement, the conservation measures enacted under SWIOFish to improve the sustainability of priority species are likely to lead to access controls or other restrictions being placed on traditional fisheries. The mitigation for such impacts are addressed in a Process Framework, which engages project affected persons (PAPs) in a participatory process to develop measures or project components to mitigate project impacts on their fishing-related livelihoods. The Process Framework has been prepared as a separate accompanying document.

Two other Safeguard policies were considered for their relevance, however the potential for impacts, and their magnitude, was considered small enough to not warrant them being triggered for the overall project.

Pest Management (OP 4.09): which is intended to promote the use of biological or environmental controls to reduce the reliance on synthetic chemical pesticides. While no procurement of pesticides

or pesticide application is currently envisaged for Bank-funded project activities, it is possible that an aquaculture operation initiated through SWIOFish supported investment schemes may choose to use aquatic herbicides or antibiotics. While such use is considered unlikely and should be discouraged in any discussions about project design, the ESMF project screening, implementation and monitoring process included as part of this ESA addresses this risk.

Cultural Resources (OP/BP4.11) addresses protection of object, sites, structure or natural features which have important archaeological, paleontological, historical, architectural, religious, aesthetic or other cultural significance. To the extent that some of the possible infrastructure investments that may occur under SWIOFish, such as port facilities or processing areas, may be located in coastal towns or where there are historical sites, care will need to be taken to avoid development plans that may impact these cultural resources. The ESMF contained in this ESA specifically excludes approving and/or funding subprojects that may cause harm to cultural resources.

Given the project objective to improve governance in the fisheries management sector, through better data collection, stronger enforcement of conservation measures, and renewed emphasis on co-management strategies to engage and enlist communities in the effort, it is expected that the impacts of SWIOFish1 will be largely positive.

Positive impacts are expected to include:

- Better data, better knowledge of species, ecosystems, catch, economic benefits
- Better MCS compliance and licensing and other fee revenue collection-financing mechanisms, reduction of Illegal, Unreported and Unregulated (IUU) fishing
- Increased Tanzanian presence in deep sea fishing, bring greater socioeconomic benefits
- Reduction of destructive fishing practices (dynamite fishing, beach seines, etc.)
- Establishment/strengthening of sustainable institutions for governance, monitoring and compliance
- Strengthening of Co-management will improve fisheries practices, sustainable harvesting, improved livelihoods, and coping mechanisms to deal with access controls or other loss of access to fisheries
- Communications and awareness for fishers, other key actors (judiciary) and general public
- Research and financial support for value-added businesses
- Establishment of an Apex institution to give industry a stronger voice in policy and governance
- Market research for improved mariculture investment opportunities
- Village Savings and Loans (VSL) schemes to promote small business development, allow for diversification away from fisheries, and compensation for those forced to leave or reduce their traditional fishing activities

The negative impacts are largely localized and tied to access restrictions that may be implemented in certain fisheries or geographic locations. They may include but are not limited to:

- Rights-based management or restrictions in access to fisheries resources could reduce income for some fishers
- Restriction of access to fisheries through improved management of the marine conservation areas
- Short-term reduction in income to artisanal fisheries engaged in illegal or unsustainable fishing activities due to strengthened MCS
- Localized environmental and possible social impacts from infrastructure construction (all-weather roads, buildings, port facilities
- Further development in crowded or ecologically sensitive coastal areas
- Development impacts from subproject investments; and
- Potential cumulative impact of many new micro, small, or medium-size enterprises undertaking similar activities near environmentally sensitive areas.

Since the specific projects and their locations have not been identified prior to appraisal, an Environmental and Social Management Framework (ESMF) has been developed as part of this ESA to address these future project activities. The ESMF establishes a mechanism to determine and assess future potential environmental and social aspects of the project activities under SWIOFish, and then set out mitigation, monitoring and institutional measures to be taken during implementation and operation of the project activities to eliminate adverse environmental and social impacts, offset them, or reduce them to acceptable levels. The ESMF will address the environmental and social safeguard requirements that will need to be applied once specific subprojects related to the subcomponents are identified, while the Process Framework will address potential negative impact on communities, households or individuals as a result of introducing access controls, including seasonal closures, establishing no-take areas, etc.

Initial consultations to prepare this ESA, ESMF and PF have been captured in the stakeholder consultation reports presented in the annexes of this report. The general sense of the consultations is positive anticipation of the SWIOFish project and the understanding that on balance the environmental and social benefits will be positive. However many stakeholders expressed concerns over the potential imposition of access controls, fearing it would have negative impact on their livelihoods. Conversely, stakeholders who live and fish in communities where some form of access controls or restrictions already have been placed on fishing activities were more positive about their effects on regenerating fish stocks while maintaining livelihoods. This suggests it will be useful to bring fishers from communities where access controls are being considered to ones where they have already been implemented, for concerned fisher and other key stakeholders to learn from the experiences of their peers.

1. Introduction

Overview

Mainland Tanzania and Zanzibar have rich marine and coastal resources which provide a livelihood and major food source for many of the estimated 16 million people living in the coastal areas or on the main islands of Zanzibar and Tanzania. However those resources, particularly fisheries are being overexploited, and harvests are beginning to fall. The government of Tanzania seeks to improve fisheries management and improve the economic benefits that come from the fisheries and mariculture sectors, through participation in a new regional World Bank fisheries governance and management project known as **SWIOFish**.

Tanzania intends to use the technical assistance and funding from the World Bank to improve its ability to capture data on its fisheries resources, perform monitoring surveillance and control activities to improve its tax collection efforts from international offshore fishers, as well as benefit from the considerable migration that takes place among fishers from different countries.

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ESA Objective

The overall objective of the Environmental and Social Assessment (ESA) is to evaluate the biophysical and socio-economic impacts of the SWIOFish1 project, and to develop an Environmental and Social Management Framework and Involuntary Resettlement Process Framework to manage these impacts in a way that meets national requirements and World Bank Safeguard policies. The Process Framework is presented in a separate document.

A three-person team of consultants conducted the ESA, using document review, field visits, key informant interviews and stakeholder consultations to gather information and prepare the assessment.

Technical Approach and Methodology

The technical approach of the ESA consultancy included the following elements:

- Review of findings and other lessons learned from past experience with MACEMP and other relevant projects
- Stakeholder consultations to meet with institutional and community stakeholders and field visits to selected coastal and island communities likely to be affected by the project
- An assessment of potential environmental and social impacts and management capacity gaps and enhancement opportunities in the fisheries and mariculture sectors presented by the proposed SWIOFish1 Project.
- Development of an Environmental and Social Management Framework (ESMF) and Involuntary Resettlement Process Framework (PF) to provide guidance and procedures for managing these impacts and strengthening management capacity. The Process Framework is presented in a separate document.

2. Project Environmental and Social Context

Coastal and Marine Environment

Tanzania and Zanzibar's coastal and marine regions are home to a rich and diverse array of marine resources. Ecosystems and habitats include coral reefs, sea grass beds, mangrove stands, estuaries and lagoons, tidal flats, small islands, cliffs and rocky shores, beaches and dunes, as well as additional offshore habitats. Significant animal species include the endangered dugong, dolphins, humpback whales, sea turtles, hundreds of species of reef fish, the coelacanth, coconut crab and a large variety of seabirds and other birds.

The coastline is about 1,400 kilometers, of which 800 km of coastline lies along the Tanzanian Mainland. The Union which joins Mainland Tanzania and Zanzibar share an Exclusive Economic Zone of 223,000 Km including a Mainland coastal zone of around 30,000Km2 and a continental shelf of 17,500 Km2.

The climate and major currents in the region determine the ecological character of the marine environment in the URT. There are two major monsoon seasons running from November to February and June-September. The dominant current is the East African Coastal Current.

There are a wide variety of marine and coastal habitats found along the Tanzanian Mainland and Zanzibar coasts. These include:

- Coral reefs
- Mangroves
- Seagrass beds
- Cliffs and rocky shores
- Small islands
- Beaches and dunes
- Estuaries and coastal lagoons
- Tidal Flats
- Offshore habitats

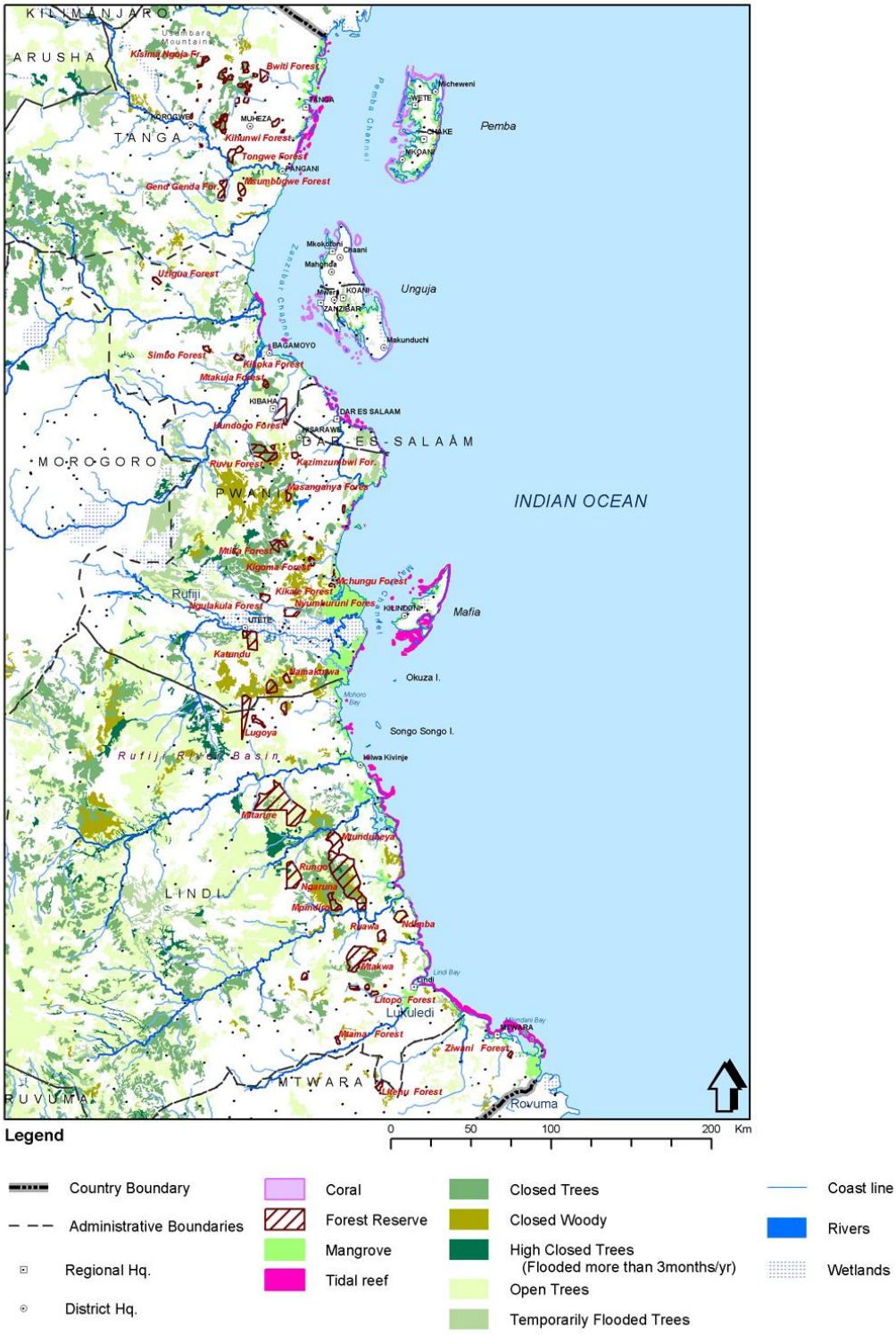
Important Species

The coastal and marine areas of Mainland Tanzania and Zanzibar contain a number of significant and in some cases endangered species. These include one of Africa's most endangered mammals, the dugong, as well as eight species of dolphins, humpback whales, all five species of sea turtles found in the Western Indian Ocean, hundreds of species of reef fish, the rare and threatened coelacanth, the threatened coconut crab, and a wide variety of birds and seabirds.[1]

[1] Meyers, D., The Marine Legacy Funds of Tanzania, Feasibility Study and Guidance Documents, September 18, 2012.

Map 1: Tanzania and Zanzibar Coastlines

(Source: http://gridnairobi.unep.org/chm/EAFDocuments/Maps_and_Data/maps_thumbnails/tz_forest.jpg)



Marine Parks and other Coastal and Marine Protected Areas[2]

There are a number of Marine Parks, Marine protected areas or marine Conservation Areas and marine management areas in Mainland Tanzania and Zanzibar. These include the following:

Table 2.1: Mainland Tanzania Marine Parks and Marine Reserves

MP or MR	Year Established	Approx. area (Km^2)
Maziwe Island Marine Reserve	1981	2.6
Dar es Salaam Marine Reserves System	1975	26
Mafia Island Marine Park	1995	882
Mnazi Bay-Ruvuma Estuary Marine Park	2000	650
Tanga Coelacanth Marine Park	2009	552

Sources: MACEMP ESA, Tanzania Marine parks and Reserves Website (www.marineparks.go.tz)

Table 2.2: Zanzibar Marine Conservation Areas

MCA	Year Established	Approx. area (Km^2)
Menai Bay Conservation Area (MCBA)	1997	470
Misali Island Conservation Area	1998	23
Mnemba Island - Chwaka Bay Conservation Area (MIMCA)	2002	290
Pemba Channel Conservation Area (PECCA)	2005	1,000
Tumbatu Marine Conservation Area (TUMCA)	proposed	133
Changuu-Bawe Marine Conservation Area (CHABAMCA)	proposed	116
Kojani Marine Conservation Area	proposed	not yet surveyed

Sources: MACEMP ESA, Tanzania Marine Parks and Reserves Website (www.marineparks.go.tz), Shalli and Anderson Co-Management Zanzibar Report.

Economic and Social Context: Overview[3]

The United Republic of Tanzania (URT), comprising Tanzania and Zanzibar[4], is the largest country in East Africa. An estimated 35% of the total Tanzanian population lives below the poverty line (World Bank, 2013). In 2012, the country reached a record high of GDP rose to US$28.25 billion in 2012. GDP per capita was US$483.48 in 2010 (World Bank, 2010). The country's economy is heavily dependent on agriculture (including livestock), which accounts for 27.1% of the GDP, employs about 80% of the work force, and provides 60% of export earnings[5]. Other socio-economic sectors include manufacturing industry, mining industry, fisheries, tourism and forestry, water, marine and coastal resources, energy, construction and communications/transportation.[6]

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[3] Few sources exist for socioeconomic data on Tanzania and Zanzibar that are disaggregated by coastal region, district, or community. This section of the ESA draws much of its information from the April 2014 draft version of the multivolume report being produced by DHI and Samaki Consultants for MLFD on "Investment Prioritisation for Resilient Livelihoods and Ecosystems in Coastal Zones of Tanzania."

[4] The United Republic of Tanzania comprises Tanzania (including the mainland and several near shore islands, including Mafia Island) and Zanzibar (the islands of Unguja and Pemba).

[5] CIA 2013 World Fact Book

[6] DHI and Samaki, 2014a.

An estimated quarter of the combined URT population of around 44 million lives in coastal areas or on islands. Coastal communities range in size and population density and economic activity from Dar es Salaam, the country's largest population center and economic hub, to many isolated rural coastal villages with limited access to roads, electricity, and clean water supplies, although cellular phone service has arrived in many coastal locations.

In these coastal settlements, subsistence food production and extraction of natural resources, including fishing, make up the predominant form of livelihoods. However growing population densities, which increase pressure on coastal ecosystems, including water supplies, and problems linked to overfishing create long-term sustainability challenges for these coastal communities. The following sections describe the socioeconomic contexts of coastal Mainland Tanzania and Zanzibar, which are similar but which have their own particular characteristics.

Mainland Tanzania

Coastal Regions and Communities

Mainland Tanzania has five regions that lie along the coast, including Tanga, Pawani, Dar es Salaam, Lindi and Mtwara. These five regions are further divided into 16 districts, as shown in Table 2.3

Table 2.3: Mainland Tanzania Coastal Regions and Districts

Region	Districts
Tanga	Mkinga, Tanga (U), Muheza, Pangani
Pwani	Bagamoyo, Mkuranga, Rufiji, Mafia
Dar es Salaam	Kinondoni, Ilala, Temeke
Lindi	Lindi (M) Lindi (rural), Kilwa
Mtwara	Mtwara (M), Mikindani

Dar es Salaam, the country's largest and most densely populated city and primary hub of the country's economy sits on the coast, as do smaller urban municipalities including Tanga, Pangani, Bagamoyo, Lindi and Mtwara. In between these urban areas are smaller peri-urban areas including Kilwa, Kivinje and Kilindoni, and numerous small rural coastal villages, many of which have limited infrastructure including roads, electricity and communications services, although cellphone service is available along much of the Mainland coast. The lack of infrastructure and rural nature of many of the coastal communities has limited their opportunities for economic growth and links to larger markets outside their local settlements.

Population growth along the coast has been significant over the past few decades, with urbanization, increasing population density and urban sprawl affecting most of the major coastal population centers, led by Dar es Salaam but also including Tanga and Pwani (See Table 2.4). In many cases this urbanization has overrun traditional coastal fishing settlements. But there are still many people in or on the fringes of the coastal urban and peri-urban areas who earn a significant part of their livelihood from fishing or fishing-related activities.

Mainland Coastal Population

There are approximately one million more women than men in Mainland Tanzania. Half of the combined URT population is 17 or under, across the country in both urban and rural areas, with over 65% of the population under the age of 25.[7]

[7] National Bureau of Statistics 2012 census data, accessed at http://www.nbs.go.tz/ on 19 Jun 2014

Coastal Mainland Tanzania makes up about 15% of the country's total land area, and is home to about a quarter of its population. The 2012 census[8] found that of Mainland Tanzania's 43.62 million people, 9.64 million people (or 22 percent of the Mainland population) live in the five regions that lie along the coast. Per annum population growth rates from 2002 to 2012 averaged 2.7% across Mainland Tanzania, with an urban population growth rate of 5.2%. However population densities have increased significantly in all coastal zones except Lindi, especially in urban areas, straining local infrastructure, including water supplies, and potentially threatening coastal livelihoods. Dar es Salaam, the largest city in the country has 4.36 million inhabitants, or roughly 10% of the Mainland population, with a population density of over 3,100 persons per square kilometer. Increased population densities in the coastal urban settlements have led many people to settle in marginal coastal lands, where erosion and depletion of natural aquifers can create further hardships for those trying to grow food or otherwise eke out a livelihood from the marginal lands.

Table 2.4: Population Data for Coastal Mainland Tanzania

Region	Population 2002	Population 2012	Annual growth rate (%)	Population density 2002 (per km2)	Population density 2012 (per km2)
Tanga	1,636,280	2,045,205	2.2	61	77
Pwani	885,017	1,098,668	2.2	27	34
Dar es Salaam	2,487,288	4,364,541	5.6	1793	3,133
Mtwara	1,124,481	1,270,854	1.2	68	76
Lindi	787,624	864,652	0.9	12	13
Tanzania Mainland	33,461,849	43,625,35	2.7	38	49
URT	34,443,603	44,928,923	2.7	39.1	50.4

Source: National population and household census, URT 2013, in DHI and Samaki, 2014a.[9]

Mainland Tanzania Coastal Households

Mainland Tanzania has around 9.1 million households. In the coastal communities, households often are comprised of large families with low per capita incomes and high rates of illiteracy. However, census data suggests that the average household size in Mainland Tanzania appears to have declined somewhat, from 4.9 inhabitants in 2002 to 4.7 in 2012,[10] while mainland coastal households size in 2012 ranged from 3.7 inhabitants in Mtwara to 4.6 in Tanga. Dar es Salaam household sizes averaged 3.9 inhabitants in 2012. Many coastal villages, especially on the Mainland, have high fertility rates, countered by a high population migration to larger urban centers. In Mainland Tanzania, 35% of the households are Muslim, 30% Christian, and 35% have indigenous beliefs (MACEMP 2005).

While urban coastal communities, particularly Dar es Salaam generally have good access to infrastructure and services, much of the rural coastal settlements are relatively isolated with poor access to services and infrastructure including roads, electricity, and water supplies. See Table 2.5 for information on access to basic services.

Table 2.5: Household Wellbeing Indicators in Mainland Coastal Regions (2000-01).

Household Data	Tanga	Pwani	Dsm	Lindi	Mtwara	Mainland

[8] National Bureau of Statistics 2012 census data, accessed at http://www.nbs.go.tz/ on 19 Jun 2014.
[9] DHI and Samaki. 2014a.
[10] Lema 2003, Juma 2004, NBS census 2012

Household Data	Tanga	Pwani	Dsm	Lindi	Mtwara	Mainland
% of households headed by women	24	18	21	20	20	23
% of households using toilets	81	98	94	98	93	93
% households connected to electricity grid	7	6	59	5	5	10
Mean distance to fuel wood sources (rural, km)	3.2	1.7	N/A	1.6	3.2	3.1
Education						
% of adults without education	31	39	8	44	28	25
% of women without education	38	52	11	52	36	32
Primary education net enrollment	50	56	71	44	59	59
Mean distance to Primary School (km)	2.3	1.7	0.8	1.2	1.1	1.8
Mean distance to Secondary School (km)	18.8	13.1	2.5	25.1	16.6	12.6
Health						
% of households within 6 km of dispensary or health center	62	74	98	67	87	75
Water						
% of households with piped or protected water	46	35	94	19	52	55
% of households within 1km of drinking water (dry season)	41	56	84	47	41	55
Economy						
% of children (2-14) employed	80	57	28	40	46	62
Consumption and poverty						
Expenditure	9.3	10.5	21.9	9.5	12.4	10.1
Basic needs poverty	36	46	18	53	38	36

Source: HBS 2000/01 (summary report) in DHI and Samaki. 2014a[11]

Mainland Coastal Infrastructure

Roads: Major paved roads link Dar es Salaam to the other four regions, but the roads in and between other coastal settlements are less well-developed. Lack of good roads or public transit options limit access of rural communities to outside markets for local products.

Water supply: The dual pressures of population growth and urbanization are putting severe strains on water availability and supply. Some coastal areas including Dar es Salaam and Pangani district are also facing sea water intrusion into local water supplies in some locations on the coast. Households moving onto marginal land on the coast due to urbanization often depend on unreliable ground water sources.

Energy: Access to electricity varies widely in coastal areas, as shown in the above table, with wide disparities between urban and rural areas. Many households in both urban and rural areas continue to use charcoal and wood fuels for cooking, which threatens local coastal forest and mangrove resources.

Mainland coastal economy overview

Three quarters of the country's industries are located in coastal urban areas, primarily in Dar es Salaam, which is also the country's largest port and central hub for most government offices and businesses. Tanga and Mtwara are also busy ports, and like Dar es Salaam serve as a transshipment

[11] http://www.povertymonitoring.go.tz/surveyroutinereport/HBS_2000_contents_of_summary.pdf, in DHI and Samaki 2014a.

point for products traveling to and from inland Tanzania as well as nearby landlocked countries. While administrative and service sector jobs are available in the coastal urban areas, many people living on the periphery of these areas still rely on subsistence farming, and fishing and fishery-related activities and small businesses.

Coastal Livelihood activities

Because of the paucity of formal employment in both urban and rural coastal areas, coastal households often must rely on a variety of means to meet their livelihood needs, including food supplies and subsistence income. Subsistence food production and extraction of natural resources, including fishing, make up the predominant forms of livelihoods. Small scale subsistence and commercial activities include artisanal fisheries, animal husbandry, agriculture, mariculture, salt and lime production, stone quarrying and sand mining, beekeeping, mangrove-related activities and small scale trade and crafts. In some areas coastal residents are able to participate in tourism or tourism support activities. In coastal villages, fishing is the main livelihood for male-headed households, while farming is the main activity for female-headed households. Many coastal resident need to pursue multiple livelihoods to ensure a food supply and subsistence income for their households.

Importance of Fisheries to the Coastal Communities of Mainland Tanzania

Tanzania has an Exclusive Economic Zone (EEZ) of 223,000 km2 and a continental shelf of about 17,900 km2 ranging from 6 to 80 km wide.

Most of the fishing that occurs in the EEZ is carried out by foreign fleets that fish for tuna and tuna-like species. Key coastal and marine fisheries include: tuna, swordfish, prawns, demersal fish (grouper and snapper), octopus, and mariculture (shrimp farms, seaweed, shellfish culture)

Small scale fisheries are estimated to account for 98 percent of total Tanzanian fish production, 1.3 percent of GDP and make up 9.9 percent of fish exports worth an estimated US$12.4 million. While most of those exports come from lake fisheries, small scale fisheries along with agriculture make up a significant portion of food, income, and employment for those who live along the coast.

Most of the coastal fisheries are small scale artisanal fisheries, with limited capacity for processing, storage and transportation of their product, which makes for high rates of post-harvest loss. There is no Tanzanian deep sea fishing fleet, although there are a few larger boats that venture up to into deeper waters off shore. Tanzania, and to an even greater extent Zanzibar, has an active seaweed aquaculture industry, made up mostly of women. In Zanzibar an estimated 15,000 people produce around 5,000 tons (dry weight) of seaweed a year, much of which is exported, although there is local consumption especially in coastal regions.

The fisheries sector is one of the country's six largest sectors of economic activity (along with agriculture, mining, services, construction, and manufacturing) but it provides a minimal contribution to GDP, at a mere 1.4% in 1.4% in 2010 (PHDR, 2011).[12] Significant illegal fishing and trafficking of fish and fish products, combined with the low productivity of a largely artisanal fishery mean there is little revenue generated by the sector, especially in the form of foreign exchange earnings. Ministry of Livestock and Fisheries Development data suggest artisanal fisheries (marine and freshwater sources) contributed about 99.15% of total fish harvested (MLDF, 2007), the large majority of which is freshwater fish from Lake Vistoria and other freshwater sources. Marine artisanal fish represented about 17% of total artisanal fish production (MLDF 2007).

MLDF reported in 2009 that there were around 170,000 marine and freshwater artisanal fishers, of which slightly more than 26,000 are marine fishers located in Mainland coastal communities. In all, it

[12] PHDR 2011, cited in DHI and Simaki, 2014a.

is estimated that more than 500,000 coastal inhabitants derive their economic livelihood from the sector in one way or another in fisheries related activities (Marine Fisheries Report 2008 in MLDF 2009). Fishing also provides recreation, tourism and foreign earnings.[13]

An MLFD Fisheries Frame Survey Report 2009 reported a total of 36,321 full time fishers (including foot fishers), using 7,342 relatively small fishing dugout canoes, and nearly 56% who operate on foot without gear or crafts using spears, hand traps and small nets operating from 257 landing sites (Fisheries Frame Survey report 2009). The Mainland regions with the greatest number of fishers include: Coast (12,417), Dar es Salaam (7,430), Mtwara (5,792), Tanga (5,410) and Lindi (5,272). The districts with the greatest number of fishers are Mtwara Rural (4,739), Rufiji (4,247) Mafia (4,200), Temeke (3,586) and Kilwa (3,500). The Coast Region alone has 2,726 fishing vessels out of a total of 7,342, with Mafia and Mtwara having the highest number.[14]

The small scale or artisanal fishery sector is the most important one, as it provides an economic base for the majority of coastal communities, contributing significantly to poverty reduction, economic growth and food security, employment, local incomes and some foreign exchange. Most reef fish, sardines and other species are caught for domestic markets.

Fishing also provides a major source food source for coastal communities, accounting for almost 60% of animal protein consumed (JICA, 2005:35)[15]. Given that most coastal communities rely on subsistence agriculture for much of their food needs, fishing also provides supplemental food and income in years when harvests fail or communities are between growing seasons.

The fisheries are open access, based on common property rights. Fishing boats are required to be licensed and fishers must have a fishing license and permit from the local authority, including migrant or "dago" fishers who come from outside a local community. This has allowed many coastal residents to participate in artisanal fishing, albeit often with rudimentary gear and non-motorized canoes. Illegal and environmentally destructive dynamite fishing, once largely under control, has flourished in many Mainland coastal areas. The quick and easy nature of this illegal practice damages reefs, drives fish away, and has a corrosive effect on communities where it is practiced by resident and outsiders alike seeking quick income in an environment where fish stocks are declining over time.

Because they can be accessed by fishers with simple canoes and fishing gear, coral reef fisheries make up a large part of the artisanal fishing activities. In addition to fish, octopus, squid and prawns are also caught, often by women, children and older men who gather them and other estuarine and mangrove organisms on foot.[16]

While there are some small-scale fishing operations and small commercial fleets that use motorized boats, the predominant use of non-motorized canoes and other small boats by the majority of artisanal fishers means they are largely limited to near shore areas to catch fish. Efforts to form and equip a Tanzanian deep sea fishing fleet began under the MACEMP program and are likely to continue under SWIOFish, however few coastal communities are expected to participate in or see significant returns from this fairly limited-scope activity.

Most of the fish and other seafood caught or collected by artisanal fishers are sold locally at landing sites, or are bought by local buyers for local fish markets, or for transport to larger markets elsewhere, including the country's largest Kingamboni fish in Dar es Salaam. Some fish is bought for use by processing plants, while a small amount of higher-quality product is bought by the tourism industry for use in hotel restaurants. In most cases local fishers are heavily reliant on fishmongers or other

[13] Various MLDF reports, in DHI and Simaki. 2014a.
[14] MLFD Fisheries Frame Survey Report 2009, in DHI and Samaki 2014a.
[15] JICA 2005 in DHI and Simaki. 2014a.
[16] DHI and Simaki, 2014a.

middlemen to sell their fish into larger markets. In addition a lack of proper cold chains, including ice, freezers, etc. either on boats or at the local landing sites means that much of the catch is spoiled before it ever reaches the market.

Mariculture is a growing activity in the Mainland coastal areas. Mainland Tanzania's numerous deltas, estuaries and mangrove swamps are potential locations for mariculture, especially prawns. Fish-farming initiatives, many of which were initiated under the MACEMP program or WWF's RUMAKI Seascapes program, include production of milkfish, mullet, tilapia and prawns. These activities can increase coastal communities' livelihoods from fishing, while reducing pressure on capture fisheries. However, technical assistance and provision of fingerings and other inputs are needed to make sure the activities are sustainable and not harming local ecosystems with their waste products.

Seaweed farming has also become a major source of coastal household income in Tanzania in 11 districts employing over 5,500 people. Although it started in Zanzibar in the mid-1990s, it is now spreading in Mainland Tanzania, especially in Bagamoyo, Tanga, Kilwa and Pangani. An estimated workforce of around 5,579 (MACEMP 2009) is mostly women, providing an additional source of income for coastal households where traditionally only men are allowed to go out in boats. However, it is a labor-intensive activity with low market prices for crops, and it can suffer from large-scale die-offs of the product due to water conditions. Some value-added products, including soaps, medicines, and food additives are being made from the seaweed, for sale to hotels and tourists, but most of it is sold largely unprocessed for export to Asian European and U.S markets.[17]

Marine and coastal resources are very important to URT's economy and society, especially to those living along the coast or on the islands. Tens of thousands of families who live in impoverished coastal communities depend on the sea for their livelihoods, as it provides both food and income. But the population growth along the coast, as well as growing export demand for certain marine products are placing increasing pressures on fisheries and underlying habitats. To date there have been few restrictions placed on fishers in most of Tanzania's nearshore areas and territorial waters, putting increasing pressure on the fisheries resources. Some signs of this pressure include[18]:

- Decreasing catch per level of effort
- Degradation of key habitats and resulting loss in productivity
- Decreasing opportunities for competitive export production of high value species
- Inability of fishing as a means to escape poverty for coastal populations
- Habitat destruction of spawning and nursery grounds
- Loss of biodiversity and habitat resilience
- Loss of key ecosystem services essential to adapt to changing climate

[17] DHI and Simaki. 2014a.
[18] Meyers, D., The Marine Legacy Funds of Tanzania, Feasibility Study and Guidance Documents, September 18, 2012.

Box 1: Threats to Mainland Tanzanian Coastal Communities Relying on Fisheries for their Livelihoods

The following list summarizes specific threats to livelihoods related to fisheries and aquaculture, and the natural environment, many of which are human-induced:

- Social conflicts over fishing gears - where local fishers use gears or methods (some of which are illegal) that are not acceptable by neighbouring villages.
- Social conflicts over access to resource – where cultural and historical rivalry over "traditional" fishing grounds increases as pressure on the resource increases; also includes increasing resentment of migratory fishing groups of "dago" fishers during seasonal visits, using gears considered destructive or conflict with local traditions.
- Destructive and illegal fishing - causing decline in productivity due to habitat destruction through beach seine, spear guns and dragnets, and dynamite, adversely affecting the fisher community livelihoods.
- Poor fishery resource management – allowing open access fishery, thus increasing fishing pressure and stock depletion is difficult to manage; leading to conflicts with tourists over coral reefs to dive and to snorkel, fish landing sites and tourist hotels; to seaweed farming conflict with boat users and tourists;
- Poverty and lack of education – combine with absence of alternatives or investment, are all attributed as the causes for the current behaviour of fishers.
- Pollution into catchments and coastal zone - by dumping or leaching of domestic, urban, mining and industrial wastes, sewage, solids, agricultural pesticides into catchments or direct disposal in wetlands, draining to estuaries and coastal zone, affecting marine productivity.
- Drainage changes - re-claiming areas for agriculture, to build roads, houses and cities or mosquito control, or diversion or in-efficient use of water for irrigation, mining, industry, livestock or domestic and urban needs alters flows, changes estuarine sediment loads.
- Unsustainable mining - salt, sand, coral lime, fossil coral limestone, etc. mined with damage to physical properties of shorelines and river basins.
- River damming - for reservoirs for domestic water, irrigation and/or hydro-electric power (HEP) changing sediment loads, affecting estuaries.
- Poor mangrove resource management – allowing over harvesting of mangrove and wetland or riverine trees leading to erosion and estuarine siltation.
- Catchment deforestation in major basins – causing changes in river flows, leading to excessive run-off, flooding, erosion and siltation.

Source: *Coastal Profile for Tanzania Mainland 2014 Thematic Volume – Draft*. DHI and Samaki. April 2014.

Other Livelihood Activities

Other non-fishery-related livelihood or economic activities that affect the socioeconomic wellbeing of Mainland Tanzania coastal residents are discussed below.

Agriculture and Livestock

An estimated 80-90% of Mainland coastal households are dependent on subsistence agriculture for their livelihoods. Small and large scale agriculture are practiced in both urban and rural areas, along with livestock keeping. Most of the land in the coastal area is of low agricultural potential, with an over-reliance on rain-fed agriculture, and few crops are well suited to coastal belt conditions. Farming potential is also limited by lack of appropriate technologies, reliable low-cost implements, extension services, and supply of inputs, including fertilizers, fuel and seeds. Major food crops include maize, cassava, sweet potatoes, legumes, bananas, sorghum, rice, vegetables and tropical fruits. Major cash

crops grown in the coastal zones include sisal, cashew nuts and coconuts. Sisal is grown in large estates (private and publicly owned), mostly in Tanga, but also in the southern region. Most of the coastal agriculture involves smallholders with poor access to infrastructure, credit, technology or inputs.[19]

Tourism

Tourism is one of the fastest growing sectors in Tanzania. But while the tourism industry brings in an estimated annual revenue of US$1.3 billion (MACEMP 2012), the amount of income earned by Mainland coastal tourism sites is actually understood to be very small. In addition to hotel and resort receipts, additional tourism income comes from fees collected in the Marine Protected Areas and Saadani National Park. There are an estimated 105 hotels along the 650km coastline, averaging 80 beds each. An estimated 5,000 jobs are supplied to local communities by these hotels, in addition to providing temporary or longer-term service work to local businesses (tour agencies, restaurants, construction, suppliers of building materials, furniture, foodstuffs, etc.) (DHI and Samaki. 2014a)

Coastal Forest Products

An estimated 150,000 people earn a portion of their livelihood directly from coastal mangrove forests (MACEMP 2012). Much of this activity involves producing fuelwood and charcoal, which accelerate deforestation. Wood is also used for construction timber and wood for boatbuilding. But there are also a myriad of other products that can be harvested less destructively from the coastal forests, including herbal medicines, edible fruits, mushrooms, plant-derived oils, eaves and beverages, bamboo, gums, fodder, fibre, honey, candles, dyes, ornamental plants, household utensils and handicrafts. Many Tanzanians use these products, especially the traditional medicines made from forest plants, even in major urban centers (DHI and Samaki. 2014a).

Oil and Gas Industry

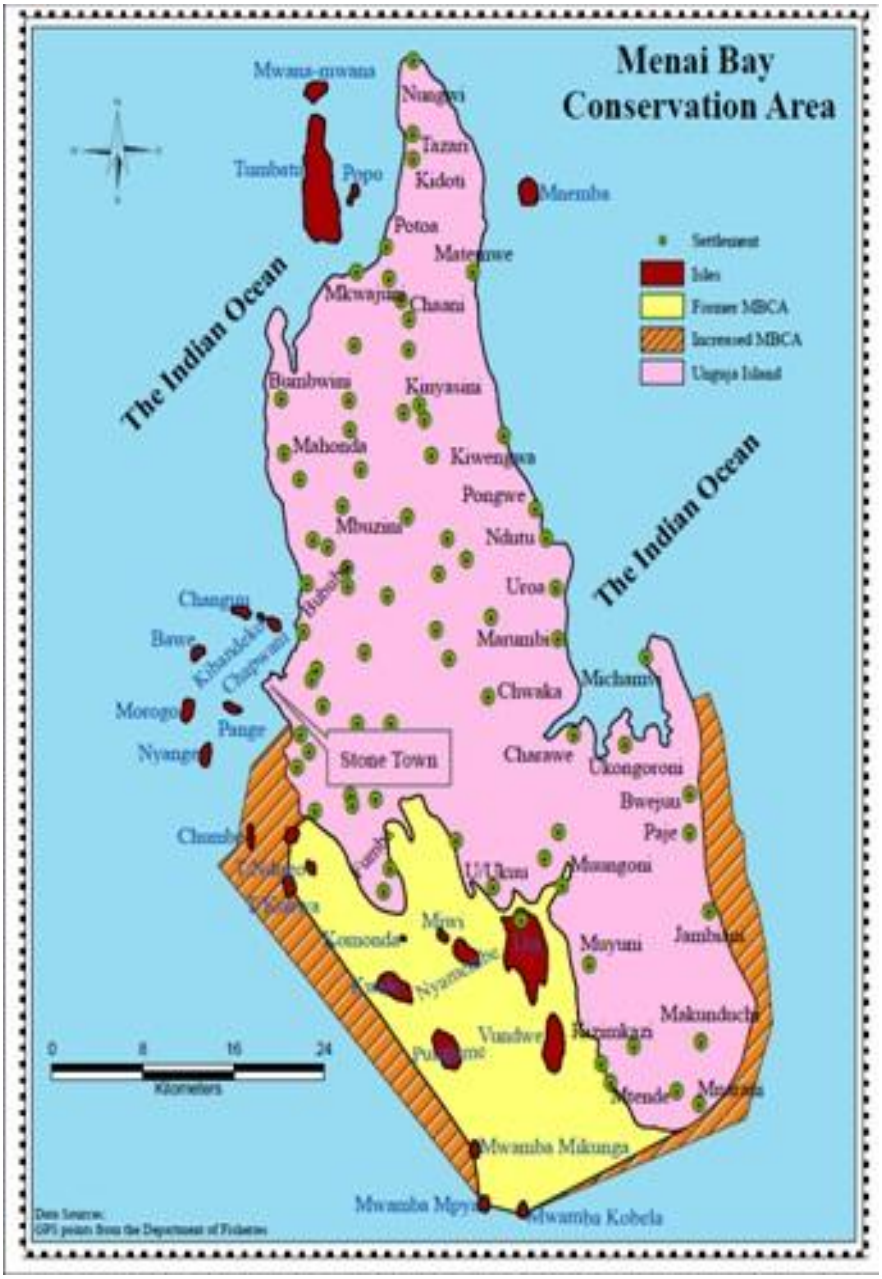
While the emerging oil and gas industry may offer some jobs to inhabitants of coastal communities, most jobs will go to skilled workers or specialist contractors and consultants. DHI and Samaki (2014a) estimate that the upstream portion of the industry (which includes exploration and production activities, much of which occurs offshore) may provide as many as 1,500 direct or indirect jobs to coastal communities situated near industry sites, including direct service jobs such as drivers, security guards, office staff, and other personnel for the two gas processing plants operating in Tanzania (Mnazi Bay and Songo Songo), and power generation plants at Ubungo, Kilwa and Mtwara, and casual labor needed for the Mtwara to Dar es Salaam pipeline. This figure also includes an estimated 500 local jobs supplying food, water and other supplies to the Mtwara operations base. Many of these job opportunities are in the less developed districts of Mtwara, Lindi and Kilwa. Downstream operations, mainly storage, distribution and sale of hydrocarbon products, working at petrol stations and depots in the coastal districts of Mainland Tanzania could generate employment for over 3,000 personnel. Once a planned LNG plant is in place at Lindi, several thousand more jobs could be created.[20] However, a significant environmental and socioeconomic risk for coastal communities posed by the growing oil and gas industry is the potential for environmental damage or impacts to local fisheries and fish stocks. These could come from increased boat traffic, noise and vibration from drilling activities, accidents, oil spills, or failure by exploration companies to adhere to environmental standards and practices. Such events may in turn provoke civil unrest in coastal areas where these companies are active.

[19] DHI and Samaki. 2012a.
[20] DHI and Samaki. 2014a.

Coastal Sand and Rock Mining

Besides the existing Twiga and Tanga cement plants, and future coastal cement plants planned for Kimbiji, in Temke District, and Mtwara, most mining that occurs along the coasts is done in the informal sector. Although data on this activity is scant, beach and river sand mining is thought to engage several thousand casual workers, including women and children. It includes sand, rock and aggregate mining, and mining of live coral. However these practices are often unsustainable, and can lead to river and beach shoreline erosion, and destruction of coral reefs that provide habitats for fish.[21]

Map 2: Menai Bay Conservation Area



Salt Production

Salt production and the availability of affordable locally produced salt is probably more beneficial to coastal communities for its nutritional value (providing iodine in local diets) than it is for economic income. An estimated 3,500 to 5,000 people, mainly women, may be involved in this activity in coastal Mainland Tanzania, in either commercial or small-scale production (UNICEF 2007 in DHI and Samaki). Small-scale salt production can lead to localized degradation of mangrove forests where trees are cut for firewood to boil and evaporate the salt water.

Zanzibar[22]

Introduction

Zanzibar is comprised of the two islands of Unguja and Pemba occupying a total area of 2,650 km2. As a state made up of islands, the livelihoods of Zanzibar residents are largely dependent on coastal and marine resources that support fisheries, tourism and other sources of income.

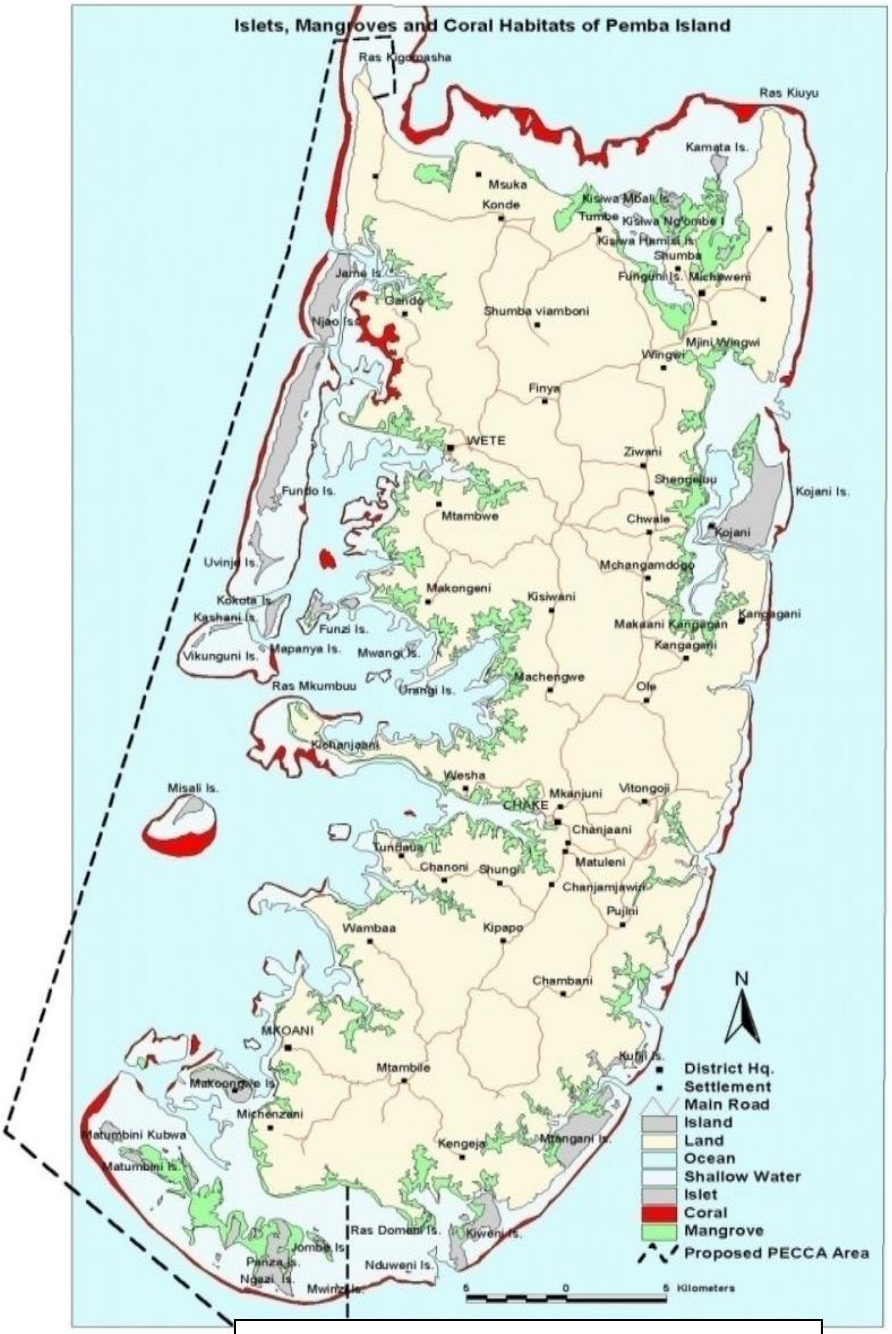
Zanzibar Regions and Communities

[21] DHI and Samaki. 2014a.
[22] DHI and Samaki 2014b. Coastal Profile for Zanzibar 2014 Thematic Volume – Draft 0. April 2014.

There are five regions in Zanzibar: Mjini Magharibi, Kusini (South) Unguja, Kaskazini (North) Unguja, Kusini (South) Pemba and Kaskazini (North) Pemba, all of which have coastlines. The largest urban area in Zanzibar is Stone Town on Unguja Island, which is also the site of most administrative buildings and the commercial center. The districts are Wete, Mkoani and Chakechake in Pemba, and South, North B, Mbweni, Mangapwani, Chwaka and Nungwi in Unguja Island.

Population

Roughly half the population lives in urban areas, while the rest live mostly in smaller villages and settlements on or near the coast The 2012 census[23] found that about 1.3 million people live on the islands of Zanzibar, in slightly over 250,000 households. Women outnumber men by about 42,000. Zanzibar per annum population growth over the decade from 2002 to 2012 ranged from 1.1% and 1.3% in Southern and Northern Pemba regions to growth rates of 2.5% to 4.2 % in the Unguja island regions, and 4.4% in urban Zanzibar. Zanzibar's population is 68% rural, with 44% of the population consisting of children under the age of 15. (MKUZA II, 2010)



Map 3: Pemba Channel Conservation Area

The relatively high rates of population growth pose challenges for the islands of Zanzibar, particularly along the coast of Unguja island, where population growth rates are higher than on Pemba (see Table 2.6). As with any island ecosystem, increasing population growth and density threaten to overrun finite water supplies, while household and commercial waste disposal directly into the watershed and seas surrounding the islands can affect nearshore fisheries and onshore seaweed cultivation.

[23] National Bureau of Statistics 2012 census data, accessed at http://www.nbs.go.tz/ on 19 Jun 2014.

Table 2.6: Population data for Zanzibar Regions

Region	2002	2012	Average Annual Growth Rate (%)	2012 Population density (persons/km2)
North Unguja	136,639	187,455	3.2	399
South Unguja	94,244	115,588	2.0	135
Mjini Magharibi	390,074	593,678	4.2	2,581
North Pemba	185,326	211,732	1.3	369
South Pemba	175,471	195,116	1.1	588
Total for Zanzibar	981,754	1,303,569	2.8	530

Source: National population and household census, URT 2013, in DHI and Samaki, 2014b.[24]

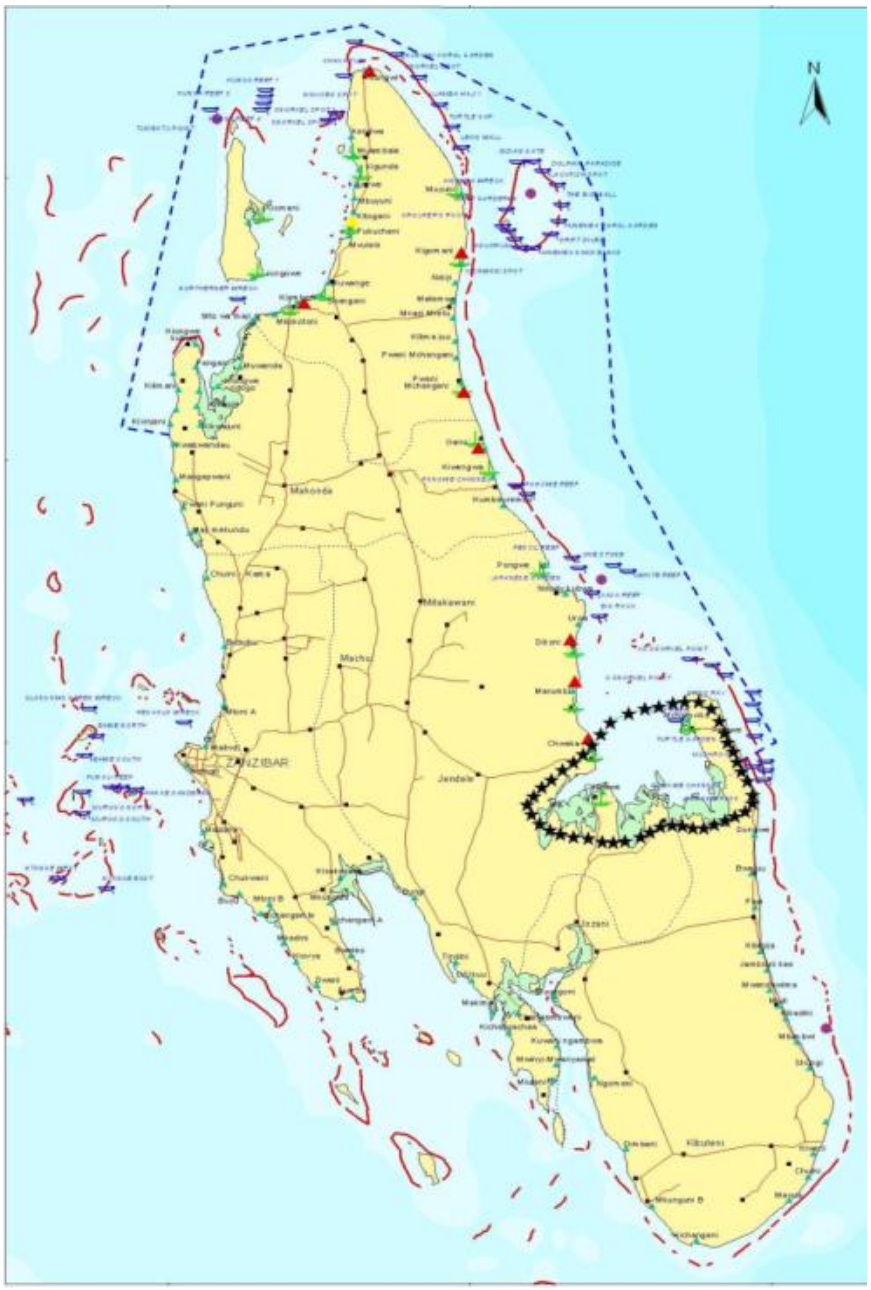
Zanzibar Households

As with the Mainland, Zanzibar coastal households often are comprised of large families with low per capita incomes and high rates of illiteracy. Household size in Zanzibar was estimated at 5.3 person per household in 2002 and 5.2 in 2012, and ranged from 4.4 to 5.4 persons per household in various regions in 2012. More than than 99% of the households in Zanzibar are Muslim.

Zanzibar Infrastructure and Services

The United Nations has ranked Zanzibar as one of the most rapidly urbanizing countries in the region, with the proportion of people living in urban areas increasing from less than 10% in 1975 to 40% in 2012, UN-HABITAT 2009). While a worrisome trend from a population crowding standpoint, it also means a larger proportion of Zanzibar citizens have access to infrastructure, including power, water and sanitation, education, health and ICT services, because the population is largely grouped in urban areas.

Map 4: Mnemba Island Marine Conservation Area



[24] DHI and Samaki. 2014b.

Energy: All main towns on both islands are connected to the national grid, although many rural areas still have no electricity, especially on Pemba, and overall reliability is not strong. Zanzibar's rural communities
are about 60% of the total Zanzibar population lives in rural areas and most of these households do not have access to electricity, equivalent to 42% of the total population. Firewood is the primary energy source for cooking in Zanzibar with 75% of households using it.[25]

Roads: Zanzibar has 120 km of paved roads which reach most parts of both islands including major urban areas.

Water supply: Around 2/3 of Zanzibar households (65%) have access to clean water including piped water or well water. Some harvesting of rain water is practiced.

Health Services: According to the 2004/2005 Household Budget Survey, more than 75% of households in rural areas are witin 1km of a health center.

Education: A 2000 study (the EFA 2000 Assessment) found that in 1986 about 38.5% of adult population was illiterate. The same study found that illiteracy rates may be rising among children and adults, prompting the department of adult education to conduct adult education classes targeting women income generating groups, fishermen and farmers.

The Zanzibar Economy

Fisheries and tourism are the primary economic activities in Zanzibar, followed by agriculture and trade. Zanzibar's tourism industry is continuing to grow, and provides over half of National GDP (51% in 2007), followed by 27.3% for agriculture and 15.4% for industry (Zanzibar Economic Bulletin, March 2009, in DHI and Simaki 2014b).

Livelihood activities

While tourism is a major income earner and employer for Zanzibar, most people on Pemba and Unguja depend on a mix of livelihoods, including fisheries, subsistence farming, mangrove cutting, coastal thicket harvesting, livestock keeping, rope making or trades and wage employment. Seaweed farming, aquaculture and tourism are more recent sources of livelihoods. Clove plantation has been a significant economic activity, especially in Pemba, and the islands produced 7 % of the world's cloves in 2006.[26]

Importance of Fisheries to Zanzibar

Fisheries are central to the national economy of the country and livelihood of Zanzibar inhabitants in terms of income and employment and subsistence. Fisheries contribute about 98% of animal protein to the diet of low-income populations. Fisheries also employ an estimated 25% of the population as fishers and supporting service providers in fisheries-related activities such as production and marketing (DoE, 2009)[27].

Livelihood studies on Zanzibar suggest that fishing is the most dominant livelihood source, with 28.7% participation on average across all districts, followed by crop farming (24.2%) and seaweed farming (14.4%), while tourism and other activities jointly accounted for 32.6%. (MACEMP 2009).

[25] DHI and Samaki. 2014b.
[26] DHI and Simaki, 20104b.
[27] Marine Conservation Unit, Zanzibar Department of Fisheries and Marine Resources. Legal and Institutional Framework for Effective Management of Marine Managed Areas in Tanzania: Report on Zanzibar. 2012.

The artisanal/small-scale or artisanal fishery sector in Zanzibar provides fulltime employment for over 34,500 people (2010 Joint Frame Survey, cited in DHI and Simaki 2014b). A number of fishery products, including prawns, lobsters and sea cucumbers and seashells are harvested for export. Oysters and cockles are collected for domestic consumption. In 1997 there were 5,149 fishing vessels in Zanzibar, 2,933 of which were found in Unguja Island (UNEP/FAO/PA/CDA, 2000 in DHI and Simaki 2014b).

There are 123 official fish landing beaches on Unguja and 33 on Pemba. Migrant fisherman, also known as dago, move up and down the coasts of Zanzibar and Mainland Tanzania looking to avoid seasonal monsoon weather patterns. According to the 2007 Joint Frame Survey, around 8,600 fishing vessels are operating, over 6,000 of which are outrigger or dugout canoes.

Edible molluscs and bivalves are collected, mostly by women and children and mostly for domestic consumption although some are sold (Muhando and Rumisha (2008)). They are harvested for food, for medicinal use and as a source of lime or crushed for chicken food.

Seaweed Farming

Seaweed farming has grown substantially in Zanzibar since its early beginnings in the late 1980s. Nearly 22,000 people are employed in over 56 villages (2010 Frame Survey), mostly women. There are several seawed companies that provide technical assistance to growers, and buy their product for export and, increasingly, domestic markets.

Mariculture

Seaweed farming is the dominant mariculture activity, but there is also aquaculture, crab fattening, and culture of oysters and Mabe pearls. Most are fairly small-scale operations, involving small groups of women and incomes are smallsm and clove production.

Other Non-fisheries livelihoods Activities in Zanzibar

Tourism

Over 70% of Zanzibar's economy is drive by the tourism sector, including hotels as well as kite surfing, cultural tours and SCUBA diving. MACEMP (2009) estimated that tourism is worth over 35% of GDP, and that it represents 60% of all foreign investment (THTI, 2006 in DHI and Simaki 2014b). Up to 45,000 are employed in direct and indirect employment in tourism.

In 2006 there were an estimated 232 hotels on Zanzibar, including 65 in Stone Town, with an average of 20 rooms and 40 beds each. Most contain modern tourist facilities such as swimming pools and conference rooms and are located adjacent to sandy beaches. (Ali (2006) in DHI and Simaki (2014b)).

Agriculture

Around 60% of the Zanzibar population engages in some form of agriculture as a source of household livelihood (MKUZA II 2010), but it is not a major income earner for the islands. The primary crops grown in Zanzibar are cassava and rice, followed by banana and sweet potatoes, with smaller amounts of yams, legumes fruits and vegetables (VPO, 2012 in DHI and Simaki, 2014b). In addition to subsistence crops, some cash crops are produced, including cloves, citrus fruits, coconuts, mangos, vegetables, and rubber. An estimated 42% of households grow cash crops, while 58% grow food for their own consumptions. Weather conditions can have a dramatic effect on year to year outputs from the predominantly rain-fed agricultural activities, while unreliable market channels can also impact agricultural incomes. Close to 50,000 households in Zanzibar raise livestock or poultry.

Mangroves and Coastal forests

Mangrove forests are a source of construction poles and firewood, and are also used for bee-keeping, traditional medicine harvesting, and tannin and salt production. A number of fisheries products, including crabs, cockles and prawns are also found in mangrove forests. In some locations mangroves have become an ecotourism destination, providing income for local groups.

Salt production

Salt production is practiced on both Pemba and Unguja islands, although more prevalent on Pemba. While encouraged as a poverty reduction activity in Zanzibar, the creation of salt evaporation pans typically involves clearing of mangroves, and high salt concentrations around production sites can inhibit growth of nearby mangroves left standing. As many as 15 sites on Pemba and several on Unguja have been reported.[28]

Sand and stone collection

The construction sector on Zanzibar stimulates a demand for sand and stone collection. However collection of sand on beaches leads to erosion, and other areas where sand or stone is collected may also suffer from environmental degradation because of the thin cover of topsoil on the islands.

Other livelihood activities

There are a variety of other less lucrative coastal community livelihoods practiced on Zanzibar, often as a supplement to other activities, including food retailing, rope making, and basket-making.

Women and Gender issues in coastal areas of Mainland Tanzania and Zanzibar

Traditional cultural practices in coastal areas limit the types of economic activities involving women. It is rare to find women venturing offshore in canoes or other boats to fish, typically this work is performed entirely by men. Women's livelihood opportunities in fishing communities are usually onshore or nearshore and involve collection of shellfish, sea cucumber and octopus. Some women may catch sardines or shrimps using small nets in shallow waters. Women are also involved in fish farming activities, and many practice subsistence agriculture. As noted earlier, women also play a major role in seaweed farming, providing significant income generation opportunities to some households, although the work is time and labor-consuming and income earned is low.

Other Vulnerable Coastal Populations

As with any low income populations lacking access to services and basic amenities, in coastal communities the elderly and disabled, as well as the very young, face greater threats to their health and general well-being than able-bodied youth and adults who are able to take on the labor-intensive work of fishing, seaweed farming or agriculture. Life expectancy in coastal regions is 47 years for men and 50 years for women; this is marginally greater than the national average of 44.56 yrs. Infant mortality remains high in coastal areas with a large number of malnutrition cases among children under five. Malaria is also a major health scourge for children and the elderly, affecting 69% of children and 60% of adults (Juma 2004).

[28] DHI and Samaki, 2014b.

There is one group of fishers whose livelihoods and general well-being may be more precarious than other coastal inhabitants. These are seasonal migrant fishers, also known as "dago" fishers. These are fishers who may originate from the Dar es Salaam area, or from the Zanzibar islands of Pemba and Unguja, and who travel to other areas of the Mainland and Zanzibar coasts such as Mafia on a seasonal basis to follow seasonal movements of fish stocks or to avoid localized monsoon rainy seasons. They typically live in camps and face the common health and safety challenges of such a migrant lifestyle. There is also a potential for social conflict between migrant and local fishers, because the migrant groups may not respect local practices or customs regarding access to local resources, use of authorized gear, etc., and in many cases compete for already overfished resources. Also, while migrant fishers are expected to obtain licenses to fish in visited areas, this does not always occur, and they typically are not represented in the co-management schemes that have been set up to manage the fisheries resources.

Project Affected Persons (PAPs)

Coastal communities which rely heavily on fisheries and related activities for their livelihoods could potentially face challenges if access controls are introduced by the SWIOFish project in some coastal locations to improve local fish stocks. As required by World Bank Safeguard Policy 4.12, such groups will have access to the provisions of a separate Process Framework that accompanies this ESA and ESMF and which is designed to address any impacts faced by Project Affected Persons' loss of access to resources.

It is difficult to estimate the exact number of Project Affected Persons (PAPs). The average coastal community size in Mainland Tanzania and Zanzibar is approximately 2000-2500 inhabitants, ranging between 1500 and 4000. Average household size is around 5 persons, of which one or several may be fishers. However, a 2009 Frame Survey found a total of 8285 fishers, including 1900 foot fishers, in the Mainland Tanzania districts or municipalities where SWIOFish has targeted around 60 communities (Mkinga, Tanga municipality; Pangani; Bagamoyo, Lindi and/ or Mtwara municipality).[29] Not all of the targeted communities may need to implement access controls, and some may only be temporary closures for a few seasons until fish stocks are replenished. In Zanzibar, Frame surveys identified a total of 34,571 fishers, including 7384 foot fishers, operating on the entire coastlines of the two islands of Pemba and Unguja.[30] SWIOFish plans to work with 50-60 communities located within three large existing marine conservation areas on Pemba and Unguja which only cover around half of the coastlines of the two islands, suggesting not more than 10,000-15,000 fishers could participate in co-management plans. Out of a total of approximately 18,000-23,000 fishers potentially targeted by SWIOFish in both Mainland and Zanzibar, very few of them would be adversely affected by the co-management plans, which will be decided at a community level. Based on current experiences, it is estimated that approximately 3% of the fishers participating in co-management plans would be adversely affected, or a total of approximately 600-800 PAPs.

Regional Context

Tanzania is not the only country in the region facing these pressures. It is one of the nine SWIO member countries that border on the South West Indian Ocean, including the island nations of Comoros, Madagascar, Mauritius and Seychelles, as well as the East African mainland countries of Kenya, Mozambique, Somalia, South Africa and Tanzania. These countries have been increasing their collaboration on efforts to improve management of regional fisheries and coastal and marine conservation efforts. SWIOFish is the latest regional effort to improve integrated management of fisheries and other coastal and marine resources.

[29] DHI and Samaki (2014c). Coastal Profile for Mainland Tanzania 2014 District Volume ¨Draft 0. DHI and Samaki Consultants. April 2014.

[30] DHI and Samaki (2014d). Regional Profile for Zanzibar Tanzania 2014 Thematic Volume ¨Draft 0. DHI and Samaki Consultants. April 2014.

3. Project Description

As noted above, the SWIOFish1 Project Development Objective is to improve the management effectiveness of selected priority fisheries at the regional, national and community level. As such, it is envisioned that a Series of Projects (SOPs) could potentially be supported over the next 15 years, which would help SWIO countries address the shared challenges and development issues through an expanded multi-borrower approach. The proposed SOP would be a multi-phase operation to be implemented over a 15-year period. The first phase of the SOP (Phase 1) would extend, consolidate and build on the accomplishments of SWIOFP, the Tanzania Marine and Coastal Environmental Project (MACEMP) and other Bank and GEF-funded activities in the region.

Additional higher level World Bank Africa Strategy goals to which the project contributes includes:

- building competitiveness and employment, and
- Addressing vulnerability and resilience, with a foundation on governance and public sector capacity.

This objective is to be accomplished through a series of investments made at the regional and national level to strengthen policy and governance capacity to promote and manage sustainable fisheries and aquaculture, increase the economic benefits and benefit-sharing from fisheries, and increase regional cooperation of fisheries management.

SWIOFish1 Project Components

There are four components in SWIOFish1. Component 1 includes a series of activities that will be implemented in individual SWIO countries but focused on regional cooperation. It is anticipated that all SWIO countries, including Tanzania, will participate in this activity.

The other three components have common objectives for all participating SWIO countries, but will have country-specific project activities. This ESA focuses strictly on the component activities being implemented in Tanzania and Zanzibar.

Component 1: Enhanced regional collaboration. (*Comoros, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, Somalia, South Africa, Tanzania, Yemen, Maldives, France , IOC - US$3.0 million IDA grant* **)** The first component focuses on supporting coordination and cooperation for the management and sustainable development of fisheries in the South West Indian Ocean (SWIO), in order to provide a regional public good. Component 1 includes two activities:

Subcomponent 1.1 Enhancing capacities for managing priority regional fisheries and challenges *(US$1.4 million IDA grant)*: This subcomponent will support (i) collaboration on management of priority fisheries, including the development of common minimum terms and conditions of access for the tuna fisheries; and (ii) cooperation on Monitoring Control and Surveillance (MCS) activities**.**

Subcomponent 1.2 Sustainable regional coordination and collaboration *(US$1.7 million IDA grant)***:** This component will support (i) the development of a sustainable regional institutional framework based on SWIOFC coordination and work program; (ii) scientific, stakeholder and capacity building regional platforms; and (iii) strengthened linkages to the Regional Economic Communities (RECs).

Component 2: Improved governance of priority fisheries (Tanzania: US$17.4 million IDA, US$5.0 million GEF). This component primarily targets policies, strategies institutions and legal frameworks, and actions by the public sector and coastal communities necessary to improve priority

fisheries management and performance and marine environmental health. It will be backed by activities aimed at understanding the resource base, and human and institutional capacity building necessary to implement fisheries policies and management plans. Three closely linked and mutually supportive activities are envisaged:

Subcomponent 2.1 Knowledge and management of priority fisheries (Tanzania: US$15.6 million IDA, US$4.5 million GEF*)*, including i) strengthening of policy, institutional and regulatory framework for management of priority fisheries, ii) research on stock status and key factors affecting stock dynamics; iii) strengthening the Fisheries Information System, iv) strengthening of management and planning; v) strengthening of co-management of priority fisheries and habitats (which will be a critical factor in implementing this Process Framework); and strengthening of a cost-effective MCS capability

Subcomponent 2.2 improving the performance of public institutions and assets (Tanzania: US$1.8 million IDA, US$0.5 million GEF). This subcomponent will support capacity-building and infrastructure support that addresses or enhances management of specific fisheries, including i) capacity-building for national and local –level fisheries management institutions, ii) investments in constructions, rehabilitation or upgrading of strategic research or management infrastructure, and iii) economic analysis and detailed feasibility studies for bankable major infrastructure projects to be subsequently financed by public, private, PPP or international donor sources (see subcomponent 3.3.3.

Subcomponent 2.3: Information, communications and awareness (Tanzania: US$0.04 million IDA, US$0.01 million GEF). This subcomponent will support communications and awareness activities, and establish a publicly available web-based and newsletter Dashboard of key environmental social and economic indicators to track the progress of the sector towards achieving national policy and planning goals and making necessary adaptive adjustments of policies and programs.

Component 3: Increased economic benefits to the region from priority fisheries (Tanzania: US$10.1 million IDA). This component primarily targets enabling the region's private sector productivity and investment, and public investments critical to a viable private sector. The component will improve the regional business climate, assist a responsible private sector and prepare feasibility studies and designs for priority infrastructure investments for potential future investments. The component will make public investments to facilitate and support private investments in sustainable fisheries and aquaculture, in two phases. The first phase, covered by this project, will prepare analyses, organize financing and improve the sector investments climate. A second phase of financing may be available for co-financing of viable investments in infrastructure (e.g. fishing ports or roads). The project will support the following sub-components:

Subcomponent 3.1 Improved business and investment climate (Tanzania: US$0. 7 million IDA): this subcomponent will undertake several analyses to identify critical constraints in the fisheries sector. Analytics and diagnostics would include a detailed value chain analysis of priority fisheries, an enterprise survey for fisheries, and demand-supply study for mariculture leading to enhanced investment, while a sector organization element would include formation of a fisheries sector Apex institution, establishment of a public-private dialogue on fisheries, and capacity-building for beneficiaries through an enterprise skills development program.

Subcomponent 3.2 Expansion of opportunities for priority fisheries and value addition (Tanzania: US$8.0 million IDA). This component will address a critical bottleneck in developing a vibrant fisheries sector, access to finance. This component will provide access to finance for the fisheries sector through a Village Savings and Loan (VSL) Program to help set up self-help or fishery cooperatives in for small-scale village-level private sector, including informal enterprises and artisanal entrepreneurs. This latter program will be the key vehicle used by the Process Framework for addressing income losses faced by Project Affected Persons due to access restrictions.

Subcomponent 3.3: Planning and investment in strategic infrastructure (Tanzania: US$1.4 million IDA). This component will finance selected infrastructure [projects, including testing equipment for the Kurasini laboratory and other priority projects, possibly including fishing ports, cold chains, all weather access roads to ports, fish feed factories, mariculture hatcheries, etc.

Component 4: Project Management and Coordination (Tanzania: US$3.5 million IDA)**:** This component will support country-level implementation and management, monitoring and evaluation at regional and country level and regional project coordination and implementation. It will operate through Regional and National Steering Committees (RSC/NSCs) and Regional and National Management Units (RMU/PMUs), through the following subcomponents: ***Subcomponent 1: Project management at regional level*** *(IOC: US$2.0 million IDA grant)* and ***Subcomponent 2: Project management at country level*** (Tanzania: US$3.5 million IDA).

Project Beneficiaries

The primary Project beneficiaries in Tanzania are the coastal artisanal fishing communities on the Mainland and islands of Tanzania and Zanzibar. These communities include small scale commercial fishers, fish and seaweed farmers, households where fishing makes up a substantial part of their livelihoods and subsistence fishers. Women make up roughly half of this labor force, working in processing and marketing, shore collection of marine organizations and seaweed farming, as well as managing household finances and savings.

In addition, there are producer and professional organizations, industry or fisher organizations and local co-management institutions (including Beach Management Units (on Mainland) and Shehia Fishermen's Committees (SFCs, also known as Village Fishing Committees or VFCs) in Zanzibar who are also targeted by this project.

Project Area

SWIOFish1 Project objectives and components for Tanzania and Zanzibar will look broadly at priority species where they are found along the coastlines and in the EEZ. However the focus of the efforts to build develop and build capacity of co-management units will be concentrated in several specific zones. In Mainland Tanzania, the project will focus its Beach Management Unit development and capacity building efforts in 55 BMUs found in Mkinga (21 BMUs), Tanga town (4), Pangani (11), Bagamoyo (9) and Lindi Rural (10). In addition, the project will collaborate with existing BMUs and Collaborative Fishing Management Areas (CFMAs) on specific priority fisheries management initiatives, including regulating small pelagic fishing efforts, e.g. seasonal octopus closures, etc. Rufiji, Mafia, Kilwa, Mtwara and Temeke. Individual sub-projects will be identified as the project progresses, and based on results of studies planned on fish stocks and market opportunities. In Zanzibar, the project will concentrate its priority fisheries management efforts on 60 of the 137 VFCs (or SHCs) located in three existing MCAs, including Menai Bay CA, Mnemba Island MCA and Pemba Channel CA.

The ESMF will address the environmental and social safeguard requirements that will need to be applied once specific subprojects related to the subcomponents are identified, while the Process Framework will address potential negative impact on communities, households or individuals as a result of introducing access controls, including seasonal closures, establishing no-take areas, etc.

Project Management and Implementation Arrangements

The Ministry of Livestock and Fisheries Development (MLFD) in Tanzania Mainland, the Ministry of Fisheries and Livestock Development (MFL) in Zanzibar and the Deep Sea Fishing Authority (DSFA)

will be the joint lead agencies for SWIOFish in Tanzania and Zanzibar and will have overall responsibility for Project Implementation.

A National Project Steering Committee (NSC) will be made up of the permanent secretaries responsible for fisheries, finance and local administration from Mainland Tanzania and Zanzibar, the directors of fisheries, aquaculture/marine resources and the DSFA. The NSC is responsible for:

- Overall policy guidance on all project issues
- Facilitating coordination among agencies, and
- Reviewing and approving annual work plans and budgets (in conjunction with World Bank)

A Secretariat will be provided by the Project Implementation Unit under the supervision of the Director of either Mainland or Zanzibar

A Technical Committee is made up of directors of key participating institutions, including DSFA, Fisheries Development, marine Resources/Aquaculture, TAFIRI (Tanzanian Fish Research Institute), FETA, MPRU, local government) as well as private sector representatives (TIFPA, TPSF). This committee will advise on all project operations work plans, budgets and annual progress and performance reports prior to submission to the NSC.

The three Implementing agencies (MLFD, MFD and DSFA) will each have a Project Implementation Unit (PIU) responsible for overall project implementation and administration. Key positions within the PIUs will include project coordinators, financial management specialists, procurement specialists and M&E specialists, The PIUs will be staffed to ensure effective timely execution of project activities. The Mainland and Zanzibar PIUs will also have private sector specialist and co-management specialists.

Local government level – District Fisheries Co-Management committees. These committees will facilitate coordination between the District Council, co-management entities (BMUs and VFCs/SHCs) and the Fisheries Development Division/Departments. DFCC Members include BMU chairs within the district, representatives of NGOs to be named by the District Council, manager of Marine park, if there is one within the district, and various ex officio members including the District Executive Director (DED), officio, DFO (also the convener), and other relevant district officials.

SWIOFish activities at the local level will be coordinated by the District Fisheries Officer (DFO) who will be working with a team of officers from collaborating departments. The DFOs are the conveners of the DFCCs.

Within fishing communities themselves the key organizations are the Beach Management Units (BMUs, on Mainland) and Shehia Fisherman's' Committees (SHCs, in Zanzibar).

A Joint Fisheries Scientific Working Group (FSWG). The FSWG will conduct fisheries research and provide evidence-based advice in the decision-making process. While this group will not be involved directly in co-management activities, their research will provide species data and other research data that may be used to set and adjust access controls. They may also provide guidance on research protocols for any data collection to be done by local co-management units or other local stakeholders.

Implementing partners, which may be NGOs or consulting firms, will be engaged to work with communities on co-management activities and subprojects, including providing technical assistance and other guidance and support for the VSL program, and implementation of Process Framework activities where access restrictions are introduced.

4. Institutional, Legal and Policy Framework

Institutional Framework

Mainland Tanzania and Zanzibar manage their inland and territorial sea separately, although the Exclusive Economic Zone is managed jointly as a union matter under the Deep Sea Fishing Authority.

Mainland Tanzania

On Mainland Tanzania, the Tanzania Ministry of Livestock and Fisheries Development has overall responsibility for managing fisheries in Mainland Tanzania coastal zones. The Ministry has several divisions which are involved in fisheries management: the Fisheries Development Division, the Aquaculture Division, the Policy and Planning Division, and the Research training and Extension Division. The Fisheries Development Division includes sections for Fisheries Marketing and Quality Control, Monitoring Control and Surveillance and Fisheries Development. The Aquaculture Department includes a section focuses on marine aquaculture. The Research, Training and Extension Division has a section devoted to Fisheries Research and Training, while the Policy and Planning Division addresses fisheries policy and planning issues along with those of livestock development. There are several other fisheries-related units affiliated with the Ministry, including the institutions; the Marine Parks and Reserves Unit (MPRU), which has oversight over the country's Marine Parks and Marine Reserves, and the Tanzania Fisheries Research Institute (TAFIRI), as well as the Fisheries Education and Training Agency (FETA).

The primary institutional player in Mainland Tanzania with responsibility for environmental matters is the National Environmental Management Council (NEMC). It is responsible for reviewing and approving environmental impact statements for projects, and ensuring compliance with all the countries environmental laws, regulations and standards.

Local government authorities that may play a role in fisheries and environmental management relevant to SWIOFish include Regional and local District governments. District government offices have District Fisheries Officers and District Environmental Officers, who are employees of the Ministry of Regional Administration and Local Government Authority (under the Prime Minister's Office) These are expert/advisers to Regional and/ District Executives on the matters pertaining to their respective ministries.

Zanzibar

In Zanzibar fisheries management is handled by the Ministry of Fisheries and Livestock Development. The Ministry includes departments responsible for Fisheries Development and Marine Resources, and is also responsible for a number of Marine Conservation Areas (MCAs) as noted earlier in this report.

Administration of Zanzibar Environmental Policies and Regulations, including review and approval of Environmental Impact Statements (EIS) is handled through the Department of Environment, which is attached to the Vice President's office.

EEZ

The Deep Sea Fisheries Authority (DSFA) manages fisheries beyond the territorial sea in the Exclusive Economic Zone (EEZ) of the URT, including the issuing of tuna and tuna-like fishing licenses to national and foreign fishing vessels.

Legal and Policy Framework

Key fisheries (and related environmental) laws, regulations, policies and plans governing fisheries, including environmental legislation and policy tools include the following:[31]

Tanzania

Fisheries management in Mainland Tanzania is governed by the Fisheries Act of 2003 (No. 22 of 2003), and related Regulations, including those of 2009. They govern the management and enforcement of fishing and aquaculture development and conservation of fish and fish habitat. Other important fisheries legislation includes The Marine Parks and Reserves Act of 1994 and the Tanzanian Fisheries Research Institute Act of 1980.

Tanzanian Environmental Legislation and Policies include the National Environment Policy (1997), the Environment Management Act No 20 (Cap. 191) of 2004 (EMA), and the Environmental Impact Assessment and Audit Regulation (2005) regulations, which governs environmental assessments of projects.

Other regulations and policies which may have a bearing on activities in coastal areas include the Forest Act (2002), National Tourism Policy (1999), Land Act (1999), and Village land Act (1999).

Zanzibar

In Zanzibar, Fisheries management is governed by the Fisheries Act of 2010, plus a number of acts relating to management of the MCAs, including the Menai Bay Conservation Area (Establishment) Order of 1997, the Mnemba Island Marine Conservation Area Order of 2002, the Pemba Channel Conservation Area (PECCA) Order of 2005, and draft Marine Conservation Unit Regulations that were under development.

Environmental legislation and policy instruments in Zanzibar include the Environmental Management for Sustainable Development Act (1996) and Regulations, the National Environmental Policy for Zanzibar (1992), and the Establishment of Zanzibar Nature Conservation Areas Management Unit Act (1999), as well as the Forest Resource Management and Conservation Act (1996), and the National Forest Policy for Zanzibar (1995)

Other legislation and policy instruments that can affect activities in coastal areas include the Zanzibar Tourism Policy (2004), and the Land Tenure Act (1992) and Land Tenure (Amendment) Act (2003).

EEZ Fisheries

Management of fisheries beyond the territorial sea in the EEZ the Deep Sea Fisheries was originally established under the Territorial Sea and Exclusive Economic Zone Act, 1989, followed by the Deep Sea Fisheries Act No. 1 of 1998. This Act was subsequently amended in 2007 by the Deep Sea Fisheries Act No. 4 of 2007, and Regulations of 2009 which came into effect in February 2010.

[31] Swann, J. Review of the Legal and Policy Framework for Fisheries In Tanzania. 2013.

Fisheries Policies and Legislation for Mainland Tanzania

Table 4.1 lists the relevant fisheries and coastal and marine resource management policies and legislation applicable to Mainland Tanzania .

Fisheries and Coastal and Marine Resource Management Policies and Legislation for Mainland Tanzania

Policy or Legislation	Function in Fisheries and Coastal Marine Resource Management	Linkages with SWIOFish
Environmental Management Act (2004) and related and related Regulations, including those of 2009.	Overall management of the potential impacts on the environment of coastal activities.	• Review and approval of environmental impact statements for triggered activities. • Identification of projects or types of projects for which environmental auditing or monitoring is required, and ensure compliance with national environmental quality standards, pollution control and waste management • Prepare and co-ordinate implementation of Environmental Action Plans, public awareness and education programs, and provision of environmental advice and technical support.
National Environmental Policy (1997)	Establishment of the Mainland Tanzania policy to protect and manage environmental assets.	• Defines overall policy objectives with respect to (among others): the sustainable, secure and equitable use of resources; prevention and control of the degradation of land, water and vegetation; conservation and enhancement of natural and human-made heritage; improve the condition and productivity of degraded areas; and raise awareness and understanding of the linkages between environment and development, and promote participation in environmental action.
Marine Parks and Reserves Act (1994)	Provides for the establishment, management and monitoring of marine parks and reserves.	• Consultative process established for the generation and modification of general management plans for each MPA. • The Act provides individual parks with powers to regulate activities within its spatial boundaries. • Village Liaison Committees report to the Village Councils, and serve as the main interface between a
Fisheries Act No. 22 (2003), and Regulations (2009)	Provides for protection, conservation, and regulation and control of fish, fish products, and aquatic flora and its products.	• Provides for government functions and marine management approaches that will support SWIOFish activities. Focuses on management and enforcement of fishing, aquaculture development, and conservation of
National Fisheries Sector Policy and Strategy Statement (1997)	Policy and strategy statement with respect to the conservation, management and development of fish resources.	• Policy support for the conservation and protection of the environment; maximal use of available resources so as to increase domestic production; increase opportunity for employment in fisheries; and increase the export of fish products.
National Integrated Coastal Environment Management Strategy (2003)	Describes principals and attributes of integrated coastal management, rationale for a national strategy, and statements of overall vision, mission, goal and strategies.	• Defines strategies and implementing mechanisms, particularly with respect to planning and integrated management, conservation, research and monitoring, stakeholder participation, and capacity-building for management
Forest Act (2002)	Provides for the conservation and management of forests, including mangrove and other coastal forests.	• Describes the development and implementation of management plans, community-based forest management (CBFM) (including both Village Land Forest Reserves, Community Forest Reserves), and the permitting and licensing of forest uses.
National Tourism Policy (1999)	Describes overall environmental, social, economic and cultural objectives, as well as specific policy strategies, with respect to tourism development in Mainland Tanzania, including coastal	• Defines policy objectives for eco-tourism and cultural tourism, including general principles for development with respect to development planning, environmental protection, impact assessment, and community participation. • Guidelines for Coastal Tourism Development in Tanzania

Source: adapted from MACEMP ESA

Fisheries Policies and Legislation for Zanzibar

Table 4.2 lists the relevant fisheries and coastal and marine resource management policies and legislation applicable to Zanzibar.

Table 4.2 Fisheries and Coastal and Marine Resource Management Policies and Legislation for Zanzibar

Fisheries and Coastal and Marine Resource Management Policies and Legislation for Zanzibar		
Policy or Legislation	**Function in Coastal and Marine**	**Linkages with SWIOFish**
Environmental Management for Sustainable Development Act (1996), and Regulations	Overall management of the potential impacts on the environment of coastal activities, including ensuring the environmentally sound and healthy quality of life of the people of Zanzibar, promoting the sustainable use of renewable natural resources, preservation of biological and cultural diversity, and strengthening institutional capabilities for protecting	• EIA screening, and review and approval of environmental impact statements for triggered activities. • Establishment of national environmental standards, guidelines and codes of good environmental practice. • Ensure compliance with environmental standards, pollution control and waste management. • Preparation of Environmental Action Plans, Community Environmental Management Plans, and Integrated
National Environmental Policy for Zanzibar (1992)	Establishment of the Zanzibar policy to protect and manage environmental assets.	• Defines overall policy objectives with respect to (among others): development of a programme of integrated coastal zone management, conservation of indigenous
Menai Bay Conservation Area (Establishment) Order of 1997; Mnemba Island Marine Conservation Area Order of 2002; Pemba Channel Conservation Order of 2005	Establishment of a series of marine conservation areas	• MCAs place limits on access to resources within their boundaries. • Coxistence with Village Fishermans' Councils (VFCs) to establish areas where fishing may occur or where there are access controls may be introduced • SWIOFish activities with local fishers will be concentrated in and around 3 MCAs (Menai Bay MCA, Mnemba Island MCA, and Pemba Channel CA)
The Establishment of Zanzibar Nature Conservation Areas Management unit Act (1999)	Establishment of the semi-autonomous body with the purpose of conserving terrestrial, aquatic or marine ecosystems through the establishment and management of nature conservation	• Unit to manage nature conservation areas or national protected areas; to build the capacity for nature conservation and management of nature conservation areas; to advise, educate and promote the private sector, local communities, and government departments
Fisheries Act (2010),	Provides for protection, conservation, and regulation and control of fish, fish products, and aquatic flora.	• Provides for government functions and marine management approaches consistent with SWIOFish activities. Focuses on management and enforcement of fishing, aquaculture development, and conservation of fish
Fisheries Policy (1985)	Policy and strategy statement with respect to the conservation, management and development of fish resources.	• Policy support for: increasing the fish catch; promote fishers to fish offshore; ensure the availability of affordable fishing materials; exploit offshore resources; increase aquaculture production; establish adequate cold storage facilities; improve the economic condition of fishers; promote conservation of the marine environment; promote integrated coastal zone management; promote efficient marketing; and promote the
Forest Resources Management and Conservation Act (1996)	Established to promote the protection, conservation and development of forest resources for the social, economic and environmental benefits of the people of Zanzibar.	• Provides a means for managing coastal forest resource use. • Formation of Community Forest Management Areas involves the participation of local communities in establishing management agreements, management activities, the rules of
Zanzibar Tourism Policy (2004)	Describes the vision and mission of tourism development in Zanzibar, which is highly dependent on the use of the coastal zone.	• Defines policy strategies with respect to tourism and the environment, and culture and traditions. • Describes general approaches for achieving local benefits and community participation.

Fisheries and Coastal and Marine Resource Management Policies and Legislation for Zanzibar		
Policy or Legislation	**Function in Coastal and Marine**	**Linkages with SWIOFish**
Land Tenure Act (1992) and Land Tenure (Amendment) Act (2003)	Establishes all land as public land vested in the President, and administered by the Minister responsible for land affairs. It defines rights of occupancy of land, granting and leasing of public land.	• Ownership of trees on a property is separate from the right of occupancy. • No person may destroy or misuse land. • Any person doing research or any activity affecting land in Zanzibar is required to provide the Government

Source: adapted from MACEMP ESA

Co-Management Mechanisms

The national policy and legal frameworks include significant references to local co-management schemes whereby some aspects of fisheries management have been decentralized. Local fishing community groups, including Beach Management Units (BMUs) on Mainland Tanzania, and Shehia Fisherman's Committees (SHCs) formerly known as Village Fisheries Committees (VFCs) in Zanzibar, have been given responsibility for managing local fishing activities, including issuing licenses, collecting landing fees and making decisions on access to local marine resources.

On Mainland Tanzania the Fisheries Policy of 1997 and Fisheries Act No. 22 of 2003 enabled the establishment of Beach Management Units, initially on Lake Victoria but then along the coast in 2006. Coastal BMU creation began as a pilot project in Rufiji, Mafia and Kilwa Districts under MLFD and the MACEMP program, in collaboration with WWF Tanzania's Rufiji-Mafia-Kilwa (RUMAKI) Seascape Programme.

On Zanzibar, the Fisheries Act of (2005) which built on the Fisheries Act No. 8 (1988), had provisions for co-management that led to the creation of Village Fisheries Committees (VFCs).

Other fisheries and marine resource policy and planning instruments include:

- A National Fisheries Sector Policy and Strategy has been in place since 2007. The goal of the National Fisheries Policy is to promote conservation, development and sustainable management of fisheries resources for the benefit of present and future generations. A new version of the policy was being finalized in 2013-2014.
- The Fisheries Sector Development Program (FSDP) for the Mainland was designed to support the objectives of Tanzania Development Vision 2025 and the National Fisheries Sector Policy within framework of second national poverty reduction strategy: National Strategy for Growth and reduction of Poverty (MKUKUTA II) and CAADP to realize objectives of Tanzania Development Vision 2025 and National Fisheries Sector Policy (NFSP-2010)
- Several plans have been developed to focus on priority species, including
    - Octopus Fisheries Management Plan 2012 (OFMP)
    - Artisanal Pelagic Fishery Management Plan 2013 (APFMP)
    - Prawn Fishery Management Plan 2012 (PFMP)

International Agreements

The United Republic of Tanzania is part of the East African Community (EAC) negotiating group for Economic Partnership Agreements (EPAs) with the EU but does not have Fisheries partnership agreements with the EU.

Tanzania also is party to the following international agreements concerning which have a bearing on fisheries and coastal and marine resource management:

- Convention on Biological Diversity (1992)

- Cartagena Protocol on Biosafety (2000)
- Convention on International Trade of Endangered Species (CITES) (1979)
- Convention on the Conservation of Migratory Species of Wild Animals (1979)
- Convention Concerning the Protection of the World's Cultural and Natural Heritage (World Heritage Convention) (1977)
- Convention on Wetlands of International Importance (RAMSAR) (2000)
- United Nations Convention on Law of the Sea (1985)
- Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region (the Nairobi Convention) and related Protocols
- International Convention on Oil Preparedness, Response and Cooperation (1990)

5. Applicable World Bank Safeguard Policies

Because the SWIOFish Project will receive funding from the World Bank, it is necessary to review the project in light of the World Bank Safeguard Policies. These Safeguard policies are used to ensure that all projects financed by the World Bank are developed and implemented in an environmentally and socially responsible manner. The Safeguard Policies ensure that environmental and social risks of a World Bank-funded project are properly identified and evaluated, any significant environmental and social risks are reduced or mitigated, and that key information about the project is disclosed and shared with key stakeholders.

Because SWIOFish is a project that "consists of a program and/or series of sub-projects, and the impacts cannot be determined until the program or sub-project details have been identified," the Safeguard instrument used for World Bank compliance is an Environmental and Social Management Framework, supplemented with a Resettlement Process Framework. Processes for screening and approving subprojects are described in the ESMF, which is included in this report.

Generally speaking, because the overarching goal of the SWIOFish project is to improve the management of fisheries in coastal and marine environments, the project is expected to have substantial positive benefits for the environment as well as for users of coastal natural resources. The one area where there may be significant potential negative impacts is if access controls are put in place for communities or individual fishers that have not previously had such a regime. A related but separate Process Framework describes how such impacts will be mitigated.

Because any adverse environmental and social impacts from implementation of the SWIOFish Project in Tanzania are generally expected to be site-specific, not significant, and not irreversible, this project has been designated a Category B with regard to environmental and social impacts.

Based on a review of project preparation documents, lessons learned from the MACEMP project, and consultations on the ground, the project will trigger three Safeguard Policies:

Environmental Assessment (OP/BP 4.01): The World Bank requires an environmental assessment of projects receiving Bank financing to help ensure that they are environmentally sound and sustainable. This safeguard is typically triggered in projects where the work will affect, temporary or permanently, the natural environment and/or society, through direct, indirect, or cumulative impacts.

The Safeguard is triggered by SWIOFish because the project will have impacts, albeit largely positive ones, on the environment through improved management of priority fisheries. Activities proposed under the project will improve knowledge of fish species and their ecosystems, so they can be better managed and protected. A number of subcomponents also are planned that are intended to increase the economic benefits from fisheries through reduction of bycatch and post-harvest losses, as well as reducing harmful and illegal fishing practices, including dynamite fishing and use of illegal gear. Thus the long-term social and economic impacts also are largely expected to be positive for coastal

communities, families and individuals who derive a significant portion of their livelihood from fisheries and related activities. However there are several potential negative impacts which will need to be addressed by the project. The most significant one is the potential restriction to fisheries for some fishing communities as a result of marine conservation measures which may be taken to protect the long-term sustainability of currently overfished species and their habitats. This impact is addressed in more detail under OP/BP 4.12 below. Other smaller short-term environmental and social impacts may occur from renovation of existing buildings or construction of new ones related to infrastructure investments made under SWIOFish. These might include impacts from construction of port, harbor or processing facilities in or near sensitive environmental areas, as well as impacts on communities or individual households situated in or near new all-weather road construction sites.

Since the specific projects and their locations have not been identified prior to appraisal, an Environmental and Social Management Framework (ESMF) has been developed as part of this ESA to address these future project activities. The ESMF establishes a mechanism to determine and assess future potential environmental and social aspects of the project activities under SWIOFish, and then set out mitigation, monitoring and institutional measures to be taken during implementation and operation of the project activities to eliminate adverse environmental and social impacts, offset them, or reduce them to acceptable levels.

Natural Habitats (OP/BP 4.04) This Safeguard exists to protect, maintain, and restore natural habitats and their biodiversity, particularly in protected areas or critical habitats, as well as to ensure sustainability of services and products which natural habitats provide to human society.

This safeguard policy is triggered because (as noted above) the project is expected to have significant but positive impacts on coastal and marine environments, through better management of fish stocks and the fisher community activities, and reduction of harmful illegal and destructive practices such as dynamite fishing. Collaboration on conservation of vulnerable species, habitats and ecosystems through research and networking among research institutions and government agencies, international bodies and other conservation organizations both within Tanzania and among other SWIO countries is a major thrust of the SWIOFish project. Any subprojects funded under SWIOFish will be screened for their potential to cause negative impacts to natural habitats under the ESMF procedures; if they are likely to cause irreversible damages to habitats they will be excluded.

Involuntary Resettlement (OP/BP 4.12): As its title indicates, OP/BP 4.12 is most commonly triggered if a project requires involuntary relocation of people from their existing communities as a result of a World bank-financed project, such as a dam or major road. However OP4.12 also covers direct economic and social impacts that may occur from the loss of assets or access to assets due to the "involuntary restriction of access to legally designated parks and protected areas resulting in adverse impacts on the livelihoods of the displaced persons."[32]

While it is not anticipated that any SWIOFish project subcomponent would lead to resettlement, the conservation measures enacted under SWIOFish to improve the sustainability of priority species are likely to lead to access controls or other restrictions being placed on traditional fisheries. The mitigation for such impacts are addressed in a Process Framework, which engages project affected persons (PAPs) in a participatory process to develop measures or project components to mitigate project impacts on their fishing-related livelihoods. The Process Framework has been prepared as a separate accompanying document.

Two other Safeguard policies were considered for their relevance, however the potential for impacts, and their magnitude, was considered small enough to not warrant them being triggered for the overall project.

[32] OP 4.12 Involuntary Resettlement, Paragraph 3(b). World Bank. December 2001, Revised April 2003.

Pest Management (OP 4.09): which is intended to promote the use of biological or environmental controls to reduce the reliance on synthetic chemical pesticides. While no procurement of pesticides or pesticide application is currently envisaged for Bank-funded project activities, it is possible that an aquaculture operation initiated through SWIOFish supported investment schemes may choose to use aquatic herbicides or antibiotics. While such use is considered unlikely and should be discouraged in any discussions about project design, the ESMF project screening, implementation and monitoring process included as part of this ESA addresses this risk.

Cultural Resources (OP/BP4.11) which addresses protection of object, sites, structure or natural features which have important archaeological, paleontological, historical, architectural, religious, aesthetic or other cultural significance.

Unlike the previous MACEMP project, which included rehabilitation of some historical sites as one of its subcomponents, it is not anticipated that SWIOFish subcomponents will involve work on such sites. However, to the extent that some of the possible infrastructure investments that may occur under SWIOFish, such as port facilities or processing areas, may be located in coastal towns or where there are historical sites, care will need to be taken to avoid development plans that may impact these cultural resources. The ESMF contained in this ESA specifically excludes approving and/or funding subprojects that may cause harm to cultural resources.

Inconsistencies between National Laws and World Bank Safeguard Policies

Generally speaking, there are no major inconsistencies between Tanzanian laws and World Bank Safeguard policies. The two sets of instruments are fairly complementary and able to cover the wide range of potential project or subproject impacts, which could range from negligible to those of a potential Category B project. The challenge will be in ensuring that there is sufficient capacity within the project management, national and local government agencies and project applicants to assess impacts, identify appropriate mitigation measures, and ensure that environmental management plans will be regularly monitored by both the project proponent and SWIOFish project managers.

6. Impact Assessment and Mitigation Measures

Impact Assessment

The Impact Assessment of the SWIOFish Project for Tanzania is based on an analysis of the potential impacts of Project activities as proposed in the Project Appraisal Document of February 18, 2014, and other analyses carried out as part of project preparation studies, including the Co-management reports of December 2013 for Mainland Tanzania and Zanzibar. The ESA team also conducted interviews with key informants and consultations with stakeholders in various coastal towns on Mainland Tanzania and Zanzibar in February 2014, and field visits to coastal fishing and mariculture sites on Mainland and Zanzibar including Dar es Salaam, Tanga, Mtwara, and Coastal Region. The impact assessment also included a review of safeguards work done under the MACEMP program, including the 2005 ESA and final safeguards assessment of the MACEMP project, and implementation Completion and Results Report of July 2013.

As noted earlier, there are only three World Bank Safeguard Policies that definitively will be triggered by the Project, including Environmental Assessment, Natural Habitat and Involuntary Resettlement's loss of access to assets conditionality.

The scoping process for the impacts assessed for the ESA and ESMF involved:

- A review of project appraisal documents and other preparatory documents submitted to the World Bank as part of the preparatory phase

- A review of documents prepared for MACEMP and other previous development projects in Tanzania, and other fisheries projects, including WARFP
- Stakeholder consultations with national and local government, MPAs, civil society, communities, etc.
- Observations of existing facilities and current status of past projects in field visits to Mainland and Zanzibar sites

The information collected was used to identify valued aspects for the impacts assessment and prioritize them as being of "high", "moderate" or "low" value. Low value aspects were not assessed further in this ESA. A valued aspect was categorized as being of moderate value where there is a potential for negative or direct positive impacts, but where the valued aspect is not a priority investment area for SWIOFish1 (based on the Project Description or discussions with project managers). Valued environmental aspects that were rated as high priority and similar in nature were grouped together as coastal and marine ecosystems.

Table 6.1 Identified Valued Aspects and Areas of Potential Impacts from SWIOFish1

Valued Aspects	Impacts	Priority (high, moderate or low)
Coastal and Marine Aspects		
Coral Reefs	• Potential direct positive impact through increased research, MCS, and management of fisheries and other coastal and marine resources under SWIOFish1 – assess jointly with other coastal and marine aspects as "Coastal and Marine Ecosystems"	High
Seagrass beds	• Potential direct positive impact through increased research, MCS, and management of fisheries and other coastal and marine resources under SWIOFish1 – assess jointly with other coastal and marine aspects as "Coastal and Marine Ecosystems"	High
Offshore habitats and neritic Zone	• Potential direct positive impact through increased research, MCS, and management of fisheries and other coastal and marine resources under SWIOFish1 – assess jointly with other coastal and marine aspects as "Coastal and Marine Ecosystems"	High
Sandy beaches	• Potential direct positive or negative impacts through use of beaches for fishery or mariculture activities – assess jointly with other coastal and marine aspects as "Coastal and Marine Ecosystems"	High
Mangrove Forests	• Potential direct positive impact through increased research, MCS, and management of fisheries and other coastal and marine resources under SWIOFish1 – assess jointly with other coastal and marine aspects as "Coastal and Marine Ecosystems" • Management of or investment in mangrove forest not a priority for SWIOFish1	Moderate
Important bird areas	• Potential direct positive impact • Management of or investment in important bird areas not a priority for SWIOFish1	Moderate
Socio-cultural Aspects		
Social Capital	• Potential direct positive (long-term) and negative (short-term) impacts • Priority investment area for SWIOFish1 as part of capacity-building for co-management, other government, private and community stakeholders	High
Human Capital	• Potential direct positive impact. • Priority investment area for SWIOFish1 as part of capacity building for government, private and community stakeholders	High
Vulnerable Groups	• Potential direct positive (long-term) and negative (short-term) impact • May be targeted for investment by SWIOFish1 where access controls may affect livelihoods (see Process Framework)	High
Cultural Property and Antiquities	• Potential direct or indirect negative impact, if new fisheries infrastructure or enterprises built near historical or cultural sites • Not a management or investment priority for SWIOFish1	Moderate
Human Health and Public	• Potential indirect positive impacts	Low

Valued Aspects	Impacts	Priority (high, moderate or low)
Services	• Food and economic security may be impacted through investments in improved fisheries • Human Health and public services not targeted for direct investment by SWIOFish1	
Valued Economic Aspects		
Commercial and Artisanal Fisheries	• Potential direct positive (long-term) and negative (short-term) impacts • Improved management of fisheries resources and increased economic benefits are priorities for SWIOFish1 • Targeted for investment under SWIOFish1	High
Mariculture	• Potential direct positive and negative impacts • Improved management of and increased economic benefits from mariculture activities is a priority for SWIOFish1 • Targeted for investment under SWIOFish1	High
Tourism	• Potential direct positive and negative impacts • Management of fisheries and coastal and marine resources, on which tourism is directly dependent, is priority for SWIOFish1 • Some investments in water/beach tourism anticipated under SWIOFish1	High
Small-scale microenterprise development	• Potential direct positive and negative impacts depending on the enterprise, Improvement of livelihoods through diversification of economic opportunities and activities • Micro-investments anticipated under VSL program	High
Coastal Forest Resource Use	• Potential indirect positive or negative impacts • Not a SWIOFish investment priority	Moderate
Heavy Industry, e.g. oil and gas	• Heavy industry (primarily in Dar es Salaam and Tanga) and offshore and natural gas development and exploration operating in the coastal zone, but highly localized • Not a sector targeted for investment by SWIOFish1.	Low
Institutional Aspects		
National and Local Governments	• Potential direct positive and negative impacts - Improved capacity to deliver on institutional functions, or restricted capacity to participate effectively in SWIOFish1 due to limited human resources	High
NGOs, CBOs and Private sector	• Potential positive impacts from involvement in SWIOFish fisheries investments and increased engagement with government institutions, or negative impacts from access restrictions, capacity to participate effectively in SWIOFish1 and to monitor adequately	High

Potential Impacts of the Project on Valued Aspects

Based on the results of the scoping process, an impact matrix was developed to identify potential impacts of Project Components 1, 2 and 3 on identified valued aspects. Each identified potential impact shown in table 6.2 was given a label of:

N = negative impact
P = Positive Impact
N/P = both negative and positive impacts

Table 6.2: Summary of Potential Impacts on Valued Aspects

Project Subcomponent	Coastal & Marine Ecosystems	Social Capital	Human Capital	Vulnerable Groups	Commercial and Artisanal Fisheries	Mariculture	Tourism	Small-scale micro-enterprise development	National and Local Government	NGOs, CBOs and Private Sector	Characteristics of Potential Impacts
Component 1:Enhanced Regional Collaboration											
1.1 Enhancing Capacity for managing priority regional fisheries and challenges											
1.1.1 Management of regional fisheries and challenges	P	P	P	P	P	P	P	P	P	P	
1.1.2 Improved regional Monitoring, Control and Surveillance (MCS)	P	P	P	P/N	P/N	P	P/N	P	P	P	Potential negative effect for some fishers, including restrictions in access and increased costs to comply with MCS requirements
1.2 Sustainable regional coordination & collaboration											
1.2.1 Establishment of sustainable regional fisheries institutions	P								P		
1.2.2. Regional knowledge management & capacity building	P								P	P	
Component 2: Improved governance of priority fisheries											
2.1 Knowledge management of priority fisheries	P	P/N	P	P/N	P/N	P/N	P	P	P	P/N	Increased information on fish stocks should improve ability to manage fisheries, but may lead to access controls
2.2 Improving performance of public institutions and assets	P	P	P	P	P	P	P	P	P	P	

Project Subcomponent	Coastal & Marine Ecosystems	Social Capital	Human Capital	Vulnerable Groups	Commercial and Artisanal Fisheries	Mariculture	Tourism	Small-scale micro-enterprise development	National and Local Government	NGOs, CBOs and Private Sector	Characteristics of Potential Impacts
2.3 Information communications and awareness	P		P	P	P	P	P	P	P	P	
Component 3: Increased economic benefits to region from priority fisheries											
3.1 Improved business and investment climate	P/N	P	P	P	P	P	P	P	P	P	increased fishing activities could bring higher economic benefit but put pressure on resources if not managed effectively
3.2 Expansion of opportunities for priority fisheries and value addition	P/N	P	P	P	p	P	P	P	P	P	increased fishing activities could bring higher economic benefit but put pressure on resources if not managed effectively
3.3 Investment in strategic infrastructure	P/N	P	P	P	P	P	P	P	P	P	increased fishing activities could bring higher economic benefit but put pressure on resources if not managed effectively
Component 4: Project Management and Coordination											Not applicable

Positive Environmental Impacts and Socioeconomic Benefits

As noted elsewhere, given the project objective to improve governance in the fisheries management sector, through better data collection, stronger enforcement of conservation measures, and renewed emphasis on co-management strategies to engage and enlist communities in the effort, it is expected that the impacts of SWIOFish1 will be largely positive.

Positive impacts are expected to include:

- Better data, better knowledge of species, ecosystems, catch, economic benefits
- Better MCS compliance and licensing and other fee revenue collection-financing mechanisms, reduction of Illegal, Unreported and Unregulated (IUU) fishing
- Increased Tanzanian presence in deep sea fishing, bring greater socioeconomic benefits
- Reduction of destructive fishing practices (dynamite fishing, beach seines, etc.)
- [Strategic mechanism for dealing with large scale, long-term impacts like climate change]
- Establishment/strengthening of sustainable institutions for governance, monitoring and compliance
- Strengthening of Co-management will improve fisheries practices, sustainable harvesting, improved livelihoods, and coping mechanisms to deal with access controls or other loss of access to fisheries
- Communications and awareness for fishers, other key actors (judiciary) and general public
- Research and financial support for value-added businesses
- Establishment of an Apex institution to give industry a stronger voice in policy and governance
- Market research for improved mariculture investment opportunities
- Village Savings and Loans (VSL) schemes to promote small business development, allow for diversification away from fisheries, and compensation for those forced to leave or reduce their traditional fishing activities

Potential Negative Environmental and Social Impacts

The negative impacts largely localized and tied to access restrictions that may be implemented in certain fisheries or geographic locations

- Rights-based management or restrictions in access to fisheries resources could reduce income for some fishers
- Restriction of access to fisheries through improved management of the marine conservation areas
- Short-term reduction in income to artisanal fisheries engaged in illegal or unsustainable fishing activities due to strengthened MCS
- Localized environmental and possible social impacts from infrastructure construction (all-weather roads, buildings, port facilities
- Further development in crowded or ecologically sensitive coastal areas
- Development impacts from subproject investments; and
- Potential cumulative impact of many new micro, small, or medium-size enterprises undertaking similar activities near environmentally sensitive areas.

Table 6.3 indicates possible positive and negative impacts linked to each component and subcomponent of SWIOFish, as well as indicating mitigation measures.

Table 6.3 Likely Impacts of Project Components and Subcomponents

Project Component/ Issue	Project Activity as described in PAD	Possible Impacts	Mitigation Measures for Negative Impacts
Component 1 Enhanced Regional Collaboration			
1.1 Enhancing Capacity for managing priority regional fisheries and challenges			
1.1.1 Management of regional fisheries and challenges: Joint collaboration/action for priority fisheries, especially tuna and on sustainable use of vulnerable habitats and ecosystems, conservation of valuable species	a) Development and implementation of common regional MTCs of access to tuna fisheries, equitable access fee and collaborative arrangements and incentives for value added handling, processing and marketing of tuna and tuna by-catch, procure technical and financial services, supplies and labor in region b) Analyses, dialogues, working arrangement formal agreements to manage other fisheries (including shrimp, sea cucumber, artisanal fisheries and aquaculture) through ecosystem approaches, [rights-based management], improved co-management, enforcement, information systems, resources assessment and valuation, cross border trade arrangements for regional value added c) Collaboration on conservation of vulnerable species, habitats and ecosystems, effective management of by-catch, elimination of destructive fishing practices and networking of MPAs d) Special studies and initiatives on priority regional issues including maritime security, piracy, illicit fisheries activities, adaptation to climate change, biosecurity, ocean acidification and impact of extractive industries on fisheries and marine economy	(+) better management/policing of foreign fleets (+) improved and increased access to tuna fisheries by Tanzanian fishers (+) increased onshore economic benefits from value-added tuna processing and marketing activities (+) increased economic benefits for some fishers and some priority fisheries (-) Rights-based management or restrictions in access to fisheries resources could reduce income for some fishers (+) Reduction of destructive fishing practices and by-catch losses will improve overall health of species and ecosystems, potentially increase income from sustainable fishing methods (+) Studies, data collection, and initiatives can address bigger picture, long-term issues that local government and communities may not have capabilities to plan for	Implement process Framework developed to address socioeconomic impacts of access restrictions implemented in Tanzania or Zanzibar

Project Component/ Issue	Project Activity as described in PAD	Possible Impacts	Mitigation Measures for Negative Impacts
	and environment		
1.1.2 Improved Monitoring, Control and Surveillance (MCS)	a) development of bilateral and multilateral protocols and procedures to combat illicit fisheries activities b) Initiatives on joint or regional fisheries patrols for effective regional enforcement and deterrence c) Regional MCS directors meeting and technical meetings d) MCS Capacity Enhancement activities, including sustainable financing and cost-effectiveness e) Training, capacity-building and networking required for MCS, safety at sea, SAR and emergency response, secure communications and regional interaction on maritime security and disaster preparations	(+) Reduction in illicit fishing can improve overall health of fisheries (fish stocks and activities of legal fishers) (+) Increased capture of fisheries revenues through legal channels (+) improved MCS, safety, SAR, emergency response, and disaster capabilities can improve health and safety conditions for fishers	Follow-through and adequate monitoring and evaluation to ensure proposed activities are carried out consistently within Tanzanian environmental and social laws and policies. In such case where control measures negatively affect fishers, ensure community members are engaged in consultations to determine mitigation options to improve or restore their livelihoods. (See Process Framework).
1.2 Sustainable regional coordination & collaboration			
1.2.1 Establishment of sustainable regional fisheries institutions	a) Preparation of consolidated SWIOFish work program b)Development of effective, sustainable regional financing mechanism for SWIOFish work program c) Preparation of common policy positions for engagements with RECs, regional RFMOs and global for a on fisheries, oceans, trade, climate change, safety at sea and	(+) improved capacity and knowledge for managing priority fisheries	

Project Component/ Issue	Project Activity as described in PAD	Possible Impacts	Mitigation Measures for Negative Impacts
	disaster preparedness		
1.2.2. Regional knowledge management & capacity building	a) Establishment/support for regional scientific, technical and capacity-building networks, platforms, centers of excellence b) Leadership training courses, study tours, best practice dissemination c) Assimilation of national dashboards into regional dashboard and knowledge systems d) Development of private sector associations and industry codes of responsible fisheries and trade e) task forces on priority emerging issues, including regional policy positions and strategies f) Reliable teleconferencing facilities for program working groups and operations	(+) improved and expanded knowledge and capacity across public and private actors for managing priority fisheries (+) Active industry associations and codes of practice can improve overall quality of fisheries activities and management	
Component 2: Improved Governance of Priority Fisheries			
2.1 Knowledge management t of priority fisheries	i) Research to determine stock status, key factors affecting stocks (fishing methods, effort, socioeconomic aspects), inform new fisheries ii) Strengthen FIMS to improve data quality of reporting on fisheries performance (e.g. catch, effort, MSY, licensing, compliance, IUU fishing, quality control, etc.) iii) Strengthen policy, institutional and regulatory framework for priority fisheries management iv) Strengthening of management and planning, including update/preparation of strategic development and management plans	(+) improved data on fisheries performance will improve decision-making on possible conservation measures and access controls (+) improved planning and management capability to address challenges of implementing access controls (+) improved co-management systems will lead to better fishing practices, improved incomes, sustainability of fisheries, and more robust system to handle access controls or other loss of access to assets or resources by fishers, due to	

Project Component/ Issue	Project Activity as described in PAD	Possible Impacts	Mitigation Measures for Negative Impacts
	incorporating EAF, upgrading strategic infrastructure, studies for potential Phase 2 investments v) Strengthening of Co-Management of Priority Fisheries and Habitat, including strengthening of fishery co-management systems, including BMUs, VFCs, VLCs, improving financial sustainability of co-management and development of co-management plans	government regulation or natural conditions (disaster, climate change, etc..)	
2.2 Improving performance of public institutions and assets	a) Capacity building for MCS and public and private actors, including credit or other non-sector institutions b) Investments in rehabilitation/upgrading of strategic research or management infrastructure c) strengthening of cost-effective MCS capability for priority fisheries d) pilot measures to control dynamite fishing	(+) Improved performance of public institutions and measures to…. (+) Reduction in dynamite fishing will improve priority species and ecosystem health, may lead to improved harvests by fisher community using legal means	
2.3 Information communications and awareness	a) Communications and awareness activities, including project communication and dissemination strategy, stakeholder consultation and participation, other public awareness raising of priority fishery issues including IUU fishing impacts b) Establish publicly available web-based and newsletter Dashboard of key environmental, social, and economic indicators	(+) Awareness raising of good fisheries management practices among fishers and general public (+) Increased stakeholder engagement and participation in fisheries governance	
Component 3: Increased economic benefits to region from priority fisheries			
3.1 Improved business and investment climate	Detailed value chain analysis	(+) identify potential value added businesses to increase economic benefits from fisheries, possibly	None foreseen, although projects

Project Component/ Issue	Project Activity as described in PAD	Possible Impacts	Mitigation Measures for Negative Impacts
	Enterprise survey for fisheries Demand-supply matching study for mariculture leading to enhanced investment Creation of Sector Apex Institution Promotion of Public-Private Dialogue on improving fisheries management and increased benefit opportunities	including domestic off-shore tuna fishing industry (+) identify and address constraints to successful fisheries business development and growth (+) identify successful mariculture investment opportunities (+) Apex institution can improve public-private dialogue on better fisheries management and increased benefit opportunities	identified under 3.1 may need
3.2 Expansion of opportunities for priority fisheries and value addition	Develop vibrant fisheries private sector in Tanzania, involving market creators, intermediators and micro/small enterprises and SMEs Access to Finance (A2F) Village Savings and Loan Program (VSL) Local skills development through VSL Program Access to Finance (A2F) Advisor	(+) organize and consolidate fisheries private sector to enable greater benefits (+) Access to finance can increase value-added business opportunities in sector (+)VSL programs can help village-level private sector including informal sector and artisanal entrepreneurs for Self Help Groups (SHGs), potentially creating new jobs and income and reducing pressure on fishing as primary source of income in communities (+) training and proper organization	As detailed in the Process Framework, where fishers, households or communities need targeted assistance and mitigation measures for restoring livelihoods if access restrictions are imposed, livelihood restoration measures will be based on existing programs planned under **Component 3, subcomponent 3.2**

Project Component/ Issue	Project Activity as described in PAD	Possible Impacts	Mitigation Measures for Negative Impacts
		of good savings model can avoid past failures of local community savings and loan schemes (-) Some projects involving constructions may create localized, easily remedied environmental impacts	**Expansion of opportunities for priority fisheries and value addition**. This component will provide access to finance for the fisheries sector, through a Village Savings and Loan (VSL) Program to provide financial assistance and technical training for fishers and other coastal community residents. SHGs can provide participatory mechanism to manage loss of access to fisheries resources if it occurs. See Process Framework. Use ESMF Process to screen for impacts, follow Tanzanian and Zanzibar requirements for EIA, EMP
3.3 Investment in	Economic analysis for physical sector	(+) Infrastructure projects can	Apply Tanzania and

Project Component/ Issue	Project Activity as described in PAD	Possible Impacts	Mitigation Measures for Negative Impacts
strategic infrastructure	infrastructure for Mainland and Zanzibar, possibly including fishing port/ harbor, wet/dry docking facilities, storage facilities, cold chains, logistic networks (trucking, loading, etc.), national tuna fleet development, all-weather access roads, fish feed factory, mariculture hatcheries, boat building infrastructure, Kurasini laboratory development	improve value added and other economic benefits from fisheries (-) potential for small-scale localized environmental or social impacts from construction of infrastructure	World Bank ESIA screening, standards and best practices to any significant proposed infrastructure project design, construction and implementation
Component 4: Project Management and Coordination	Establishment and operational funding of regional and national project management units	None foreseen	None foreseen

Mitigation Measures

As noted in Table 6.3, the main aspects or impacts of SWIOFish activities that will require mitigation measures will be the subprojects that will go through the ESMF process, or activities that will fall under the Process Framework. These processes are described in more detail elsewhere in this report, or in the separate Process Framework.

7. Project Design Improvement Recommendations

To the extent that SWIOFish is intended as a follow-on to the fisheries management aspects of the MACEMP project, the SWIOFish project developers have incorporated a number of lessons learned in terms of how to avoid some of the pitfalls and improve on the successful aspects of MACEMP. Key priorities are a renewed and early proactive effort at capacity building at national andlocal levels of government, as well as targeted early-stage efforts to strengthen the existing co-management systems in Mainland Tanzania and Zanzibar.

One important element that has not been included as a component of the SWIOFish design is any reference to the use of spatial planning in making decisions on subproject investments. Given the rapid growth that is occurring along the coasts and on the islands of Zanzibar, the competition from communities and private businesses for use of coastal land (especially traditional beaches) and water resources will become more acute over the life of the project. Already fisher communities are finding their access to their boats and livelihoods blocked in many locations on the Mainland and Zanzibar by hotels or other commercial developments that have built walls and structures along the beaches. In many cases it is unclear who has the right to use the coastal areas, or what rights exist are poorly understood or enforced, which is a potential recipe for conflict. SWIOFish foresees investments in long-term infrastructure and value-added activities that have a potential to affect how land is used in coastal towns. And the potential access controls on fisheries it may introduce in coastal waters and beyond create similar conflicts for how nearshore and territorial waters may be shared by multiple users. This may be due to overlapping mandates in the Government structures (e.g. between LGA/NEMC/Ministry of Land and Human Settlement) creating a scramble for the beaches.

A considerable amount of comprehensive land use planning activities was carried out at the District and Village levels under the MACEMP project. In Tanzania Mainland, a total of 3,200 representatives from coastal villages (including village leaders, councilors and influential people) participated in land use planning awareness meetings in 11 LGAs, while 96 villages developed Village Land Use Plans. In addition, ten experts from each of the LGAs were trained in a variety of Participatory Land Use Management (PLUM) and planning techniques, including conflict resolution, preparation of land use frameworks and GIS applications for land resources assessment and planning. An additional nine PLUM teams from nine districts received similar training.[33]

Separately, a National Land Use Plan was developed for Zanzibar, however a 2012 study on Coastal and Marine Tourism Development noted that the plan had been largely ignored or overtaken by unfettered coastal commercial and residential development.[34]

[33] MACEMP Implementation Completion and Results Report. World Bank (July 2013)

[34] Coastal and Marine Tourism Development Plan for the Menai Bay Conservation Area (MBCA), Mnemba Island Marine Conservation Area (MIMCA), and the Pemba Channel Conservation Area (PECCA), Enviro-Fish, Ltd. (July 2012)

The land use planning and management capacity developed in coastal areas under MACEMP and other initiatives, as well as the completed District and Villages Land Use plans themselves can serve as important resources when making decisions on where to place SWIOFish investments. This is especially true for potential subproject investments in infrastructure and decisions on where to place access controls (which may affect existing marine zoning and uses), etc., in coastal zones where both land and marine spatial use issues and related conflicts have already arisen, or are likely to in the future due to expected growth in coastal populations and economic activities.

8. Capacity Assessment

Capacity assessments carried out to review the experience of the MACEMP project and to prepare for SWIOFish show there is a significant lack of human and institutional capacity in the lead government agencies at the national level and local government and co-management levels, across a broad range of management and technical expertise.

While some progress was made under MACEMP in improving some project management capabilities, including the ability to implement complex projects involving coordination among multiple agencies at national and local level, much remains to be done. Ongoing problems of Inter-institutional coordination, and high turnover of senior managerial and technical staff hampered MACEMP progress and will be a concern going forward under SWIOFish

At the local level, the most success was had in local districts where pilot projects were able to boost local BMU capacities (e.g. in Mafia Island). In fact many of the shortcomings in local level capacity building appear to have come from the rapid scaling up of the project in response to government interest in rolling the program out to more communities. It appears there were insufficient resources available to provide monitoring and evaluation and technical support of ongoing subprojects, and many languished as a result.

Staffing in government ministries and local government appears to lean heavily towards those with technical expertise in fisheries or related disciplines. While there is some understanding of environmental issues it generally appears that capacity to deal with environmental and social safeguards issues is weak and understaffed, with perhaps only a few people within the lead ministries being assigned responsibility for these areas. At the local District level, responsibilities for managing these issues appear to fall between District Fishery Officers and District Environmental Officers (or Subject Matter Specialists for Environment in Zanzibar), with perhaps not enough coordination between the two to cover issues that cross both of their areas of responsibility. It is also unclear to what extent social experts from other Ministries are present and managing social issues that affect resident of communities that depend on fishing.

At the community level, including the co-management units, there appears to be little environmental or social expertise or capacity and planned capacity-building efforts appear to be focused on improving basic leadership and financial management skills, which are clearly priority issues.

That having been said, aside from certain MACEMP-financed Mainland government office buildings not having conducted ESAs prior to construction, there do not appear to have been any major environmental impacts that occurred as a result of capacity shortage leading to inadequate environmental or social monitoring by project staff or other government officials of MACEMP subjects. This may be due more to the relatively low-impact nature of the projects than to the capapcity issue. But it is clear the biggest capacity gap in MACEMP subproject projects was in general management and not specifically in environmental and social issues.

Several capacity lessons learned from MACEMP will come into play:

- Providing strong capacity-building support for lead agency staff, local government and co-management units early on, with a focus on working in pilot areas first rather than spreading resources too thin

- Making greater use of skilled outside consultants to support and build capacity within government agencies, at least initially, where those skills are lacking, rather than relying solely on government workers. This will particularly be the case when working with artisanal fishers and others to improve their economic benefits from fisheries or alternative livelihoods

These two approaches should be used to build environmental and social safeguard capacity to support the project, its key public and private partners and community beneficiaries. While having adequate staff or independent resources to provide crucial front-end environmental and social review appraisal and approval of environmental and social dimensions of subprojects, there is also a need for ongoing monitoring of social and environmental issues once the subprojects have received their funding and have launched. There is also a need to refresh awareness and technical skills due to high turnover among staff at the national and district levels.

Given the SWIOFish project's early focus on research of fish stocks and capacity building in policy and management capabilities, the critical need for environmental and social expertise to review subprojects and other environmental and social aspects of the project may not occur until several years into the program. This allows time for a proactive effort in years 1 and 2 to recruit and train those who will be responsible for environmental and social oversight on the overall project, at local government levels, and in co-management settings, as well as in oversight of individual subprojects.

A capacity building workplan and budget are presented in Table 9.1.

9. Environmental and Social Management Framework

Projects that receive funding from the World Bank require an assessment of environmental and social risks or impacts posed by the project. The proper World Bank Safeguard instrument to use in this case is the Environmental and Social Management Framework (ESMF), and it is included here as a component of the ESA. AN ESMF is called for when an instrument is needed that "examines the issues and impacts associated with a project consists of a program and/or series of subprojects, and the impacts cannot be determined until the program or sub details have been identified."[35] The ESMF lays out the guidelines and procedures for assessing the environmental and social impacts of future proposed subprojects, and defines measure to mitigate, management and monitor those impacts.

The objectives of the ESMF are to:

- Establish methodologies and procedures for environmental and social impact assessment of specific sub-projects which may be proposed under SWIOFish subsequent to project initiation.
- Assess environmental and social impacts and propose acceptable mitigation measures to address those impacts
- Inform and enable participatory communications and awareness raising with stakeholders concerning environmental and social issues related to subproject development and implementation
- Establish Monitoring and Evaluation capabilities among key actors to ensure long-term sustainability of fisheries-related projects

Sub-Project Preparation, Review and Approval

This section outlines the suggested screening review and approval process for possible subprojects to be financed under SWIOFish in Tanzania. As specific projects and locations have yet to be identified, this section provides a process for screening, selection, and monitoring of such projects if and when they are identified. Most of the subprojects and other project activities requiring the use of the ESMF fall under

[35] World Bank OP 4.01 Environmental Assessment, Annex A, paragraph 4.

Component 3 of the project, because they involve private or community-based business development and creation activities and new or expanded entrepreneurial ventures. Some subprojects may involve infrastructure investments proposed under Component 2.

Possible Types of Sub-Projects

A number of sub-projects may be developed on the basis of research and capacity-building efforts undertaken by SWIOFish1, possibly including the following:

Table 9.1: Possible Types of Subprojects

Project Subcomponent	**Possible subprojects**	**Comments**
Subcomponent 2.1: Knowledge and management of priority fisheries	• Rehabilitation or upgrading of strategic existing research or management Infrastructure	Some projects involving construction/rehabilitation of buildings or roads may require ESIAs
Subcomponent 3.1: Improved business and investment climate	• Potential fishery or mariculture project investment opportunities identified through value chain analyses and demand-supply study for mariculture.	While market research is funded under 3.1, actual funding for subproject business ventures identified here would be funded through mechanisms established under Subcomponents 3.2 and 3.3.
Subcomponent 3.2: Expansion of opportunities for priority fisheries and value addition	• **Village Savings and Loan Programs** to provide seed funding and skills training in technical fishery and non-fishery-related topics for artisanal fishers. May lead to creation of small fisheries or non-fisheries-related projects, including: o Improved post-harvest practices (e.g. store catch in ice), processing and marketing o Mariculture (fish cages, crab fattening, pearl or shellfish culture, seaweed farming) o Boat maintenance, sail or net making o Shore-based processing and marketing associated with fisheries. pearl or shellfish culture, fish farming or seaweed farming o Non-fishery coastal economic activities (e.g. livestock raising, beekeeping, agriculture, ecotourism)	
Subcomponent 3.3: Investment in strategic infrastructure	• Strategic Infrastructure projects to increase value added and economic benefits from priority fisheries on Mainland and Zanzibar, possibly including: o fishing port or harbor, o wet/dry docking facilities, o Storage facilities, cold chains, logistic networks (trucking, loading, etc.), o national tuna fleet development o all-weather access roads o fish feed factory o mariculture hatcheries o boat building infrastructure o Kurasini laboratory development	Would involve public-private partnership financing

Project Exclusion List

Types of projects which would be excluded from consideration are those that involve fisheries-related or other economic activities which are illegal or may cause significant negative environmental or social impacts. Possible criteria for exclusion of certain types of subprojects include the following:

- Subprojects that use land of national parks, natural reserves, world heritage, historical cultural sites, nationally protected landscapes, biosphere conservation sites
- Projects that cause significant conversion or degradation of critical natural habitats, such as converting mangrove forests to fishponds or other land uses, or other unsustainable cutting of mangrove forests
- Illegal fishing activities involving dynamite or illegally-sized nets
- Projects that physically block or restrict fishers' access to the water (e.g. walled hotels or other shoreline obstructions or barriers that physically prevent fishers from accessing or launching their boats using customary or longstanding paths, roads or other rights of way)[36]
- Activities that involve removal or destruction of physical cultural resources
- Activities that involve high social impact such as involuntary resettlement of individuals or households

Proposed Screening Review and Appraisal Process

Table 9.2 Subproject Screening and Review Process

1. Project Proponent completed environmental screening checklist (SWIOFish Form A), with help of implementing partner.
2. The initial Checklist is provided to the District Environmental Officer, who conducts a Desk Review.
3. If all questions are answered "No" there is no significant environmental impact and no environmental approval is needed to proceed with other preparations for project.
4. If checklist completion indicates a Simple Environmental Review (SWIOFish Form C) or Limited Environmental Assessment (SWIOFish Form D) is required, the District Environmental officer Proponent will conduct this in consultation with the Proponent. The environmental officer may decide to conduct a field appraisal, using one of the two forms as the template for the review.
5. Once the District Environmental Officer has verified the form(s) needed by the project proponent have been correctly completed, the forms should be presented to the SWIOFish PIU as part of the overall subproject proposal appraisal process.
6. If checklist completion indicates an Environmental Impact Assessment (EIA) is needed, proponent will need to consult with NEMC (Mainland Tanzania) or Zanzibar Dept of Environment for the proper procedures to follow. If an EIA is needed, proponent will also need to prepare an Environmental Management Plan (EMP). Once the EIA and EMP have been reviewed by NEMC or Dept. of Environment process, and if they are approved they will be presented to the SWOIFish PIU as part of the overall subproject appraisal process.
7. Steps 6 and 7 both require that information on the project, including whatever environmental assessment is carried out, be disclosed at the District level and to the community wher the project will take place.

a) Screening: When a subproject is identified, the subproject proponent should fill out a subproject screening form (see Annex 5 for Subproject Screening Checklist) which will serve to identify potential

[36] Note this exclusion does not refer to priority fishery access control or harvest restrictions, which will be allowed and for which a Process Framework has been developed to address loss of livelihoods

environmental and social impacts. The screening process will determine, based on a preliminary environmental and social assessment, the level or Category of environmental and social risk posed by the subproject, which will define the types of studies or permits required by national law and the World Bank's Safeguard Policies.

b) Scoping and Field Appraisal: Based on the information captured on the screening form, the reviewer will decide whether the subproject needs a more detailed assessment of potential impacts through a field appraisal. The field appraisal should include a visit to the project location and interviews with local stakeholder who can provide useful input on social and environmental impacts. All key stakeholders, including potentially affected people (PAP) should be identified and a list of PAPs should be included in the appraisal report.

c) Assessment and Classification of Impacts: based on the screening template and field appraisal (if necessary) the impacts are classified based on their level of risk/risk category. Mainland Tanzania identifies certain projects that require an EIA, and others that may or may not require an EIA (see Annexes 6 and 7), while Zanzibar identifies types of projects for which an EIA certificate is or is not required and which types of projects require an EIS (see Annex 8). If subprojects trigger national EIA requirements, they will be referred to the appropriate government agency: NEMC in Mainland Tanzania and Department of the Environment in Zanzibar. Regarding World Bank Safeguard Policies and Bank classifications, it is anticipated that with the exception of Project-imposed fishing access controls (which are dealt with through the Process Framework), virtually all subprojects funded under SWIOFish will, at most, be classified as Category B projects, with adverse environmental impacts that are few, site specific and in most cases that will have mitigation measures that are easily designed and implemented. Most sub projects are expected to be considered Category C (minimal or no adverse environmental impacts) by World Bank standards, i.e. having minimal or no adverse impact on the environment and will only be subject to an initial environmental screening and any appropriate Tanzanian or Zanzibar impact provisions.

If a subproject is found to have no impacts on the environment, no further action is required, but the initial screening form will need to be presented to the District Environmental Officer. If impacts are identified the sub-project screening results will need to be brought to the attention of the District Environmental Officer. The District Environmental Management Officer (DEVO) in Mainland or Subject Matter Specialist for Environment (SMS-Environment) in Zanzibar will then carry out either an Environmental Review or a Limited Environmental Assessment, following the requirements of mainland Tanzanian or Zanzibar regulations as appropriate.

Appraisal and Approval of Subprojects

As noted earlier, most sub projects that are expected to be implemented will have minimal environmental or social impact and are likely to be considered Category B projects. The Proponent will submit an EIA that meets all Tanzanian or Zanzibar criteria for a Category B project. Normally this would include an environmental management plan, environmental contract clauses and a summary of public consultation carried out by the Project Proponent (see below for Consultation requirements).

Public Consultation and Disclosure of Subproject Information

In compliance with World Bank Guidelines and EIA Law in Tanzania, before a subproject is approved it must be disclosed publicly and made available for public review at a place that is accessible to local people such as a district council office, BMU office, etc. Public consultations should be held with local communities and other interested or affected parties during the screening and impact assessment processes. The goal of these consultations is to inform stakeholders and to identify key issues and how they may be addressed. In order to facilitate meaningful consultation, the project proponent must provide relevant materials and information about the subprojects to groups being consulted, prior to the consultations and presented in a form that is easily accessible and understandable to those groups. Public

hearings may be needed for some subprojects if there is a broad public interest in potential subproject impacts.

Environmental Management Plans for Subprojects

When a subproject requires an EMP, it should be prepared by the project proponent, using a consultant or environmental expert with sufficient environmental and social expertise relevant to the type of project being proposed, and who is familiar with relevant national requirements for ESIAs and EMPs.

Environmental Management Plan Requirements

An Environmental Management Plan (EMP) is required for all projects with identified impacts. The EMP should identify the environmental and social impacts and proposed mitigation measures, and details of management and monitoring plans, including specifications on responsibilities, cost and schedules, as well as information on how management and monitoring of the mitigation measures will be undertaken. The EMP should address issues and measures that may be needed during different stages of the project (pre-construction, construction and operation)

The EMP should (at a minimum) contain the following topics and sections. (See an EMP Template in Annex 4 of this ESA)

- Short description of subproject
- Analysis of positive and negative environment and social impacts
- Mitigation measures for any negative impacts
- Results of consultations with community, including any subproject affected persons
- EMP Performance monitoring plan, including description of management roles and responsibilities, budget and timing for management and monitoring activities

Implementing and Monitoring of Subproject EMPs

The executing agency should agree with the proponent on a management plan, including identifying critical risks and how they will be managed. If problems arise changes to the project design or implementation may be required, as is a mitigation plan in the case of any environmental or social issues that are deemed likely to arise. It is important that any project required to prepare an EMP for subproject approval be monitored on at least an annual basis.

Grievance mechanisms for subprojects

While consultations prior to subproject implementation are intended to reduce the potential for conflicts once subprojects are executed, grievances may arise due to project impacts.

Generally the guiding principle for conflict or grievance resolution is to resolve the issue quickly and at the lowest possible level, ideally within the local community using commonly-accepted practices. Measures to address conflicts that may arise as a result of project activities can include both formal and informal mechanisms. It is preferable to resolve such complaints at a local level, within existing community-level grievance or compliant mechanisms, and involving community leaders or local authorities.

These local leaders or authorities should provide an audience for aggrieved parties to express their concerns and offer informal resolution solutions. If these measures to do not resolve the issue then more formal approaches, including lodging a verbal or written complaint with the Village Council can be used. If the conflict cannot be resolved through discussion at the village level, or the complainant is not satisfied with the decision, the issue can be taken to the District Commission level. A SWIOFish

implementing partner may be involved at this point. If a Project-related issue cannot be resolved at this level, the issue should then be referred to the SWIOFish PIU.

If issues concerning relationships with external stakeholders outside a community, including disputes with other fisher communities, or with entrepreneurs who establish businesses within a community that employ local labor or use local resources, the issue may need to presented to local authorities for transmittal to District-level or higher authorities.

The Grievance Procedure described in the SWIOFish Process Framework is intended primarily for Project Affected Persons who may lose access to fisheris resources, but theprocess may be used for any project-related complaints that may arise in communities where SWIOFish-initiated activities are occurring.

Sufficient time needs to be allotted to ensure participant flexibility to adequately discuss and resolve the issue. The implementing partner can act as an intermediary or facilitator if this is helpful to the process. In some case this mediating role may be needed if decisions are taken that do not have unanimous or equal support for them within the community.

All subproject proponents and other community members consulted during project preparation should be informed as to how the grievance process works and how to register complaints. They should also be informed as to the dispute resolution process, including the intent of the Project to resolve disputes in a timely and impartial manner.

Monitoring & Evaluation of Subprojects

The overall monitoring and evaluation program developed for SWIOFish will include indicators for monitoring impacts and evaluating outcomes against project objectives.

Monitoring of the subprojects should take place on a regular basis, but at least twice a year, with an annual report submitted to the PIU. Depending on the nature of the project and availability of Project or national or local government resources, more frequent monitoring visits can be made to projects that show any signs of risks or impacts.

It is assumed that monitoring and evaluation of subprojects will be one component of the overall M&E program. M&E of subprojects will be carried out by SWIOFish PIU staff or consultants.

The annual report should provide information on the following questions, with if possible, evidence (data, photographs, etc.) to verify what is being stated in the report. Questions to be answered:

- Have safeguard issues identified in the initial assessment made during the appraisal stage ofd the subproject been addressed? If not, the proponent must develop and present for approval a plan to regain and/or maintain future compliance.
- If an EMP was required, have all the commitments made in that document with regard to impact mitigation, monitoring, training of workers, etc. been made? If not, the proponent must develop and present for approval a plan to regain and maintain future compliance.
- Are there new environmental or social issues that have arisen as a result of the project's implementation and operations? If so, what has the proponent done to address the issues?
- If the issues are deemed significant the proponent may need to modify the EMP to reflect a need for ongoing work to address the new impacts. Information on this new plan may be provided in the annual report or be required shortly thereafter.
- Does the proponent foresee any future impacts that may occur, possibly due to the subproject's expansion, or the cumulative impact of subprojects activities, possibly in conjunction with other nearby activities. If so, what is the proponent's plan to address these future issues. This plan should also be presented to the PIU for review and approval.

Capacity Assessment for ESMF Implementation

As noted earlier in this report, human and institutional capacity is lacking across many of the key disciplines needed to provide successful outcomes, and nor more so than in the area of environmental and social expertise and management.

Because the bulk of decision-making, stakeholder engagement, and management and monitoring of the ESMF process and subprojects financed under it will fall to the local level, including district fisheries officers and co-management units, it is essential that these groups receive training and ongoing support for implementing the ESMF process.

This means that in addition to capacity building and training that national and local government and co-management staff with project management responsibilities may receive regarding fisheries management, record-keeping, and general management skills, they will also need specific training related to participatory decision-making processes, environmental and social impact assessment and monitoring, and conflict resolution. This will supplement general project planning and management techniques and enable them to assess and manage the environmental and social dimensions of overall SWIOFish activities and local subprojects.

An illustrative capacity-building workplan and budget is shown in Table 9.1 below

Table 9.1: Illustrative ESMF Capacity Building Budget for five year period (US$000)

Activity	Yr 1	2	3	4	5	Total	Notes
Training							Implementing partners or other independent consultants
Training Needs Assessment for PIUs and local government officials in management of safeguards and environmental & social issues	50					50	Follow-up on recommendation by MACEMP Final Safeguard Report, for Mainland and Zanzibar
Development of training plan and materials, training of trainers	25		15			40	Initial training package in Yr 1, refresh & additional TOT in Yr 3 based on results of initial training
Training for local Environment Officers (District, Village, Shehia, etc.) in ESIA, screening and environmental & social monitoring capacity	15		15		15	45	2 X 5-day workshop on Mainland and 1 X 5-day on Zanzibar in year 1, refresher workshops in Year 3 and 5 (to address staff turnover)
Training for co-management units – awareness of environmental and social issues		25	25	25	25	100	5 workshops/yr X 2-days (3 on mainland, 2 on Zanzibar)
Technical Assistance							Implementing partners or other independent consultants
General TA - PRA, Communications, Conflict Resolution, Safeguard awareness	15	15	15	15	15	75	4 days/mo X $300/day plus expenses
Specific TA – ESIA and EMP prep and review, M&E		33	33	33	33	132	100 days/yr at $300/day plus expenses
Annual Reviews of ESMF and EMP Performance (decision-makers and projects)		10	10	10	10	40	30 days/yr at $300/day plus expenses
TOTAL	**105**	**83**	**113**	**83**	**98**	**482**	

Institutional Framework of Implementation for ESMF and subproject approval and oversight

The National PIU would have general oversight over subprojects initiated under SWIOFish1. However the path subprojects take to approval and implementation may vary depending on which project subcomponent funding vehicle they are requesting funds from. Depending on the anticipated volume of subprojects generated by project initiatives, the PIUs on Mainland and Zanzibar should each consider hiring a dedicated Environmental Safeguard Officer or at a minimum have staff member(s) who will be responsible for safeguards management and monitoring of ESMPs.

Table 9.2 Project Preparation Assistance and Approvals by Type of Subproject

Project Subcomponent	Subproject Type	Proponent or beneficiary	Project Preparation & Approval Authority
2.1 Knowledge and management of priority fisheries	Strategic research or management infrastructure	Fisheries management office, research institute	Preparation Assistance: PIU Approval: PIU
3.1 Improved business climate	Value chain fishery and mariculture investments	Private entrepreneurs	Preparation assistance: Implementing partner Approval: PIU
3.2 Expanded opportunities for priority fisheries and value addition	Village Savings and Loan Program for micro and small scale investors	Self Help Groups or Fishery cooperative of micro and small-scale village level private sector actors	Preparation Assistance: VSL management and implementing partners Implementation Partner Approval: PIU
3.3 Investment in strategic infrastructure	Strategic value-added infrastructure	Public and private investors, possibly in PPPs	Preparation Assistance: Consultants, Implementing partners Approval: PIU

Table 9.3 Roles and Responsibilities for Implementing ESMF

Level/Type	Organization	Role(s) in ESMF
National	Ministry of Livestock and Fisheries Development (Mainland Tanzania) Ministry of Fisheries and Livestock Development (Zanzibar)	Lead Agencies, overall policy planning and decision-making through Union-level National Steering Committee (NSC)
National	National Implementation Units at MLFD (Tanzania) and MLF (Zanzibar) and DSFA	Determines which infrastructure subprojects investments will be made Supports disclosure to stakeholders on planned subprojects Engages/manages consultants or NGOs to support development of potential subprojects, including consultation processes and impact assessments
	National Environmental Management Council (NEMC) (Mainland Tanzania) Dept of Environmental Assessment (Zanzibar)	Reviews and approves subproject EIAs and EMPs (if required)
District	District Government, including District Fisheries Co-management Committees (DFCCS)	Assist in identifying and developing subprojects DEMO (Mainland) or SMS-Environment (Zanzibar) may assist in screening subproject proposals, responsible for monitoring subprojects

Level/Type	Organization	Role(s) in ESMF
		once implemented
Village /Local	Village government, traditional authorizes	Play convening role in consultations and conflict or grievance procedures
Village/Local	Village Savings & Loan Groups (VSLs)	Self Help Groups or Fishery Cooperatives pool savings and receive credit and technical assistance to pursue alternative livelihood projects
Local co-management	Beach Management Units (BMUs-Mainland) Shehia Fishermen's' Committees (SFCs –Zanzibar)	May participate in developing subprojects and conducting environmental screening may plan role in grievance procedures
Other	Implementing NGOs or other partners	Will assist self-help groups or other entrepreneurs to develop subprojects, can assist with project screening, and with ESIA and EMP training
Other	Private investors	Responsible for meeting ESIA and EMP requirements for proposed infrastructure, value-added, processing, etc. subprojects

11. Process Framework

As noted elsewhere in this report, SWIOFish1 has triggered the World Bank's Safeguard Policy OP/BP 4.12 on Involuntary Resettlement, because possible implementation of restrictions on marine resource use could lead to a loss of access to natural resources assets and related income for some fishers and their communities. In such cases OP 4.12 require the development of a Process Framework (Annex A, Paragraphs 26-27) to accompany the Project. The purpose of a Process Framework is to establish a process by which members of potentially affected communities participate in design of project components, determination of measures necessary to achieve livelihood restoration and implement and monitor relevant project activities. The Process Framework for this project is contained in a separate accompanying document.

12. Stakeholder Input from Consultations

Initial consultations to prepare this ESA, ESMF and PF have been captured in the stakeholder consultation reports presented in the annexes of this report. The general sense of the consultations is positive anticipation of the SWIOFish project and the understanding that on balance the environmental and social benefits will be positive. However many stakeholders expressed concerns over the potential imposition of access controls, fearing it would have negative impact on their livelihoods. Conversely, stakeholders who live and fish in communities where some forma of access controls or restrictions already have been placed on fishing activities were more positive about their effects on regenerating fish stocks while maintaining livelihoods. This suggests it will be useful to bring fishers from communities where access controls are being considered to ones where they have already been implemented, for concerned fisher and other key stakeholders to learn from the experiences of their peers.

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World Bank Safeguard Policies.

Annexes

Annex 1: SWIOFish ESA Terms of Reference

Annex 2: List of People Consulted

Annex 3: Stakeholder Consultation Field Report - Mainland Tanzania

Annex 4: Stakeholder Consultation Field Report - Zanzibar

Annex 5: SWIOFISH Environmental Screening Forms

Annex 6: NEMC Schedule 1 Projects that require an EIA

Annex 7: NEMC Schedule 2: Projects that May/May not Require an EIA

Annex 8: Activities Which Do Not Require EIA Certificate and Which Do Require An EIS In Zanzibar

Annex 9: SWIOFish Guidelines on the use of Pesticides in Subprojects

Annex 10: Tanzania SWIOFish ESA Final Stakeholder Validation Workshops

United Republic of Tanzania

South West Indian Ocean Fisheries Governance and Shared Growth Program (SWIOFish)

Terms of Reference for a

Environmental and Social Assessment (ESA)

November 2013

1. Background

Between 2005-2013 the World Bank financed the Marine and Coastal Environment Management Project (MACEMP) project which was a US$ 65million project with the objective to strengthen the sustainable management and use of Tanzania's Exclusive Economic Zone, territorial seas, and coastal resources resulting in enhanced revenue collection, reduced threats to the environment, better livelihoods for participating coastal communities living in the Coastal Districts, and improved institutional arrangements. MACEMP closed on February 15, 2013 and among the project's important achievements were the strengthening and consolidation of fisheries management at the Union level, and harnessing of $9.3m in revenue to the URT from the offshore fishery. Key issues affecting its implementation were: 1) over-ambitious project design, involving a multitude of activities and institutions topics and actors; 2) weak institutional capacity among implementers; 3) early up-scaling of pilot activities along the entire Tanzanian coastline; and 4) inadequate arrangements for project monitoring and evaluation, leading to difficulties in assessing project impact.

At the regional level, the World Bank has also been supporting various fisheries projects in the Africa Region. The most relevant of these is the South West Indian Ocean Fisheries Project (SWIOFP), which closed on March 31, 2013. The SWIOFP, which brought together all countries in the South West Indian Ocean, including Kenya, Mozambique, South Africa, Seychelles, Comoros, Madagascar, Mauritius, Somalia (observer) and Tanzania, was successful in building regional capacity for fisheries management, including through establishing a network of fisheries researchers and managers, and developing a regional management framework. Ultimately the Member countries of the SWIO Fisheries' Commission (SWIOFC) agreed to reform the Commission, promoting it from an advisory body to a Regional Fisheries Management Organization (RFMO) of the Coastal States – enabling it to take binding decisions on fisheries management, and to negotiate in bloc with Distant Water Fishing Nations. Given the important achievements of SWIOFP, SWIOFC Member Countries have requested a follow-on project namely– the South West Indian Ocean Fisheries Governance and Shared Growth Program (SWIOFish).

2. Program Objectives and Components

The SWIOFish Program, now under preparation, will support regional integration of fisheries management, while expanding the approach beyond research to strengthen sector governance and harness the value of coastal and marine fisheries to national economies. The proposed program will be processed as the Bank's new instrument – Series of Projects (SOPs), over a 15-year period, using IDA and blended GEF resources, together with parallel support from other donors and trust funds. Given the importance of sound fisheries management to livelihoods and economic growth, the governments of Tanzania and Comoros have requested to participate in the SWIOFish as part of the proposed project ("the Project") under the SOP instrument. The Project includes activities to be implemented over an initial five-year period, to contribute toward an overall 15-year, 3-phased program. The first phase, currently under preparation, will begin in an initial group of countries including Comoros and Tanzania.

The overall SWIOFish Program Development Objective is 'to increase the sustainable economic benefits generated from SWIO marine fisheries, and the proportion of those benefits retained within the region.' The Project's Development Objective is 'to strengthen the regional and national capacity of regional institutions, national government and select coastal communities for effective governance of fisheries and aquaculture.'

A series of complementary regional investments and national investments would achieve the development objective by: (i) strengthening the countries' governance capacity to manage fisheries, including reducing illegal fishing activities; (ii) investments to increase the profitability and sustainable production of fisheries and aquaculture and the proportion of the value-added captured by the countries; (iii) supporting policies that share the benefits from sustainable use of marine resources among the key economic drivers and which prioritizes poverty alleviation through co-management of fishing communities fisheries; and (iv) building robust regional cooperation on fisheries.

The Program will have four operational components namely: (i) improved governance of fisheries; (ii) increased fisheries contribution to national economies and (iii) regional collaboration; and (iv) project management.

The first component will support the development of coherent fisheries policies with a sound economic rationale and development trajectory as well as human and institutional capacity building to implement the policies and plans. This component would support the implementation of core policy instruments. Four primary sets of activities are envisaged: (i) the establishment of a dashboard of indicators to track the progress of the sector towards its national policy and planning goals and provide a basis for adaptive management and adjustment of policies and programs; (ii) the economic management of selected fisheries and aquaculture with a focus on the most economically and socially important fisheries; (iii) the management of strategic public fisheries infrastructure, on an economically sound basis, with particular reference to non-performing assets; (iv) design and implementation of a national framework for small-scale fisheries co-management.

The second component will support: (i) the reduction of critical constraints to business, (ii) viable community fisheries businesses and SMEs and (iii) strategic hard and soft infrastructure planning and building.

The third component on regional collaboration will finance activities that will include (i) tuna fisheries management and on monitoring control and surveillance, directed particularly at Illegal, Unreported and Unregulated fishing activities; (ii) support for target fisheries and associated management of bycatch; and flagship species management; (iii) regional knowledge exchange on fisheries management; and (iv) technical support for the regional coordination process.

The proposed consultancy will contribute to the design of the Project. Project Environmental and Social Assessment (ESA) will build heavenly on the ESA and related studies done under MACEMP and other relevant projects, including the West Africa Fisheries Project.

3. Rationale for the Consultancy

As the project will be financed with World Bank funds provisions must be in place to ensure the project meet requirements of World Bank Environment and Social Safeguards Policies as well as applicable national standards.

4. Objective of the Consultancy

The overall objective of the ESA is to evaluate the potential biophysical and socio-economic impacts of the Project and develop an Environmental and Social Management Framework (ESMF) and Involuntary Resettlement Process Framework outlining the procedures to be followed to manage these impacts.

The ESA will ensure consistency with the provisions of the Environmental Management Act (EMA) of Tanzania and Comoros that require environmental and social impact assessment to be undertaken for any new projects that may cause adverse environmental and social impacts. The ESA will also meet World Bank Safeguards Policies of which the Project has triggered the following policies:

- OP 4.01 – Environmental Assessment
- OP 4.04 – Natural Habitats
- OP 4.12 – Involuntary Resettlement
- OP 4.11 – Physical Cultural Resources

The final ESA must be publically consulted, then disclosed through the World Bank InfoShop prior to Project Appraisal and Effectiveness.

5. Scope of Work

The consultant will undertake the following tasks:

a. Building upon information provided in the 2005 MACEMP ESA and other relevant studies provide description of the general environmental and social context for the Project area;

b. Describe the Project from an environmental and social perspective including potential locations and scope of project activities, and outlining a typology of project activities from an environmental and social perspective;

c. Assess and succinctly describe the institutional, legal and policy framework for environmental and social management relevant for project implementation;

d. Assess of which the World Bank Safeguard Policies apply in the proposed Project;

e. Identify any inconsistencies between national laws and World Bank Safeguards Policies;

f. Taking into account the safeguards work done under MACAMP, the 2005 ESA, and discussion with key stakeholders and the findings from the proceeding tasks the consultant shall: i) identify and assess potential impacts both positive and negative, direct and indirect, short and long term and/or cumulative of the Project activities; and ii) design measures to a) avoid, minimize, mitigate or compensate for potential adverse impacts and to enhance positive activities. Such measures should build upon lesson learned during the implementation of MACEMP;

g. Make recommendations as to how to improve the design of the Project to enhance environmental and social outcomes;

h. Assess existing capacity of the implementing agencies to manage environmental and social management issues, and develop a capacity enhancement plan;

i. Based on the impacts and issues identified in the previous steps above, develop an Environmental and Social Management Framework (ESMF) and Involuntary Resettlement Process Framework outlining specific procedures to: a) avoid, minimize, mitigate or compensate for potential adverse impacts and to enhance positive activities; b) comply with all relevant safeguard policies; c) monitor the environmental and social performance of the Project; and d) ensure necessary capacity is in place within the implementing agencies to ensure sound environmental and social management of project activities (including implementation of the ESMF). For each element, include details as to what will be implemented, what methodology (including frequency) and baseline will be used, who will be responsible for its implementation, and the necessary budget requirements;

j. Participate in workshops in Tanzania (both mainland and Zanzibar) to present draft findings of this assignment to relevant stakeholders and receive their comments; and

k. Incorporate comments received from the stakeholder workshops into the final report including an executive summary and stakeholder comments.

6. Expected outputs of the assignment

The expected outputs of the assignment are the following:

1. An inception report containing a short description of the proposed methodology, data collection and work plan for completing the assignment;
2. A draft report containing summary of task 1-11 described in section 4, with emphasis on preparation of a simple, implementable ESMF including all relevant safeguards requirements (e.g. likely to include EA, physical resettlement and Process Framework provisions);
3. A presentation summarizing the draft report;
4. Participation in two stakeholder workshops; and
5. A final report incorporating comments received from key stakeholders.

7. Timing and Reporting

The assignment is expected to be completed within forty (40) working days after the signing of the contract. The schedule for delivery of the expected outputs described in section 5 will be the following:

Activity	Timing / Deadline
Submission of inception report	2 weeks from contract signing
First mission	December 16, 2013 – January 10, 2014
Submission of the draft report	January 17, 2014
Present draft findings in workshops	January 23, 2014
Submission of final report	January 31, 2014

8. Supervision Responsibility

The consultant will work under the supervision of the Government of Tanzania's counterpart for project development. And will receive support from the World Bank team based in Dar es Salaam.

9. Consultant Qualifications

The specific qualifications of the consultant should be the following:

- An international consultant, with documented experience on development of large-scale, cross-sectoral projects;
- Advanced degree in environmental or natural resource management, social science, international development or related field;
- At least 15 years of experience in assessing development projects' environmental and social management aspects and institutional arrangements, preferably with experience from the coastal or fisheries management sector;
- Demonstrated experience with World Bank safeguard policies; and
- Extra credit for experience in Africa.

TOR Annex 1 – Relevant literature

- 2005 - Environmental and Social Assessment of the Marine and Coastal Environmental Management Project (MACEMP)
- 2012 - Review of the Implementation of MACEMP Environmental and Social Safeguards Instruments

Annex 2: List of People Consulted

	Name	Position	Organization
	Flora Luhanga	Principal Fish Technologist	Ministry of Livestock and Fisheries Development (MLFD), Dar es Salaam, Tanzania
	Ezra Mutagwaba	Sea Fisheries & Fish Quality Inspector	MLFD
	Valeria E. Mushi	Principal Fisheries Officer	MLFD
	Farah Bulongo	Fisheries Officer/MCS	MLFD
	Jovice Mkuchu	Fisheries Officer (QC)	MLFD
	John Mapunda	Fisheries Officer (Aquaculture)	MLFD
	Upendo Hamidu	Fisheries Officer (Co-Management)	MLFD
		Deputy Director Fisheries Development	MLFD
	Ramla T. Omar	Planning Officer	Ministry of Livestock and Fisheries (MLF) Zanzibar
	Haji Shomari Haji	MCS Coordinator	MLF
	Ali S. Mkarafan	Planning	MLF
	Anas M. Othman	MBCA Manager	Menai Bay Conservation Area
	Mkubwa S. Khamis	Planning - Fisheries	MLF
	Mohamed Mohamed	Director – Dept of Marine Resources	MLF
	Zahor Mohamed El Kharousy	Director General	Deep Sea Fishing Authority
	Rachid Hoza	Deputy Director general	Deep Sea Fishing Authority
	Asha Ali Khatib	Licensing Officer	Deep Sea Fishing Authority
	Daniel P. Kawiche	Inspector	Deep Sea Fishing Authority
	Sheha Idrissa Hamdan	Director of Dept of Forestry and Non-Renewable Resources	Ministry of Agriculture and Natural Resources, Zanzibar
	Dr. Amina Ameir Issa	Director, Dept. of Museums and Antiquities	Ministry of Culture
	Dr. Farhat Mbarouk	Head of EIA, Dept of Environment	Vice President's Office, Zanzibar
	Lodewijk Were	Environmental Manager	BG Group
	G. Vedagiri	General Manager-Tanzania Operations	Alpha Group
	Hashim Rune Hjelm	Managing Director	GIMSEA/BIRR

Annex 3: SWIOFISH ESA Tanzania Mainland Stakeholder Consultation Field Report

The report covers environmental and social impacts expected to happen as a result of successful implementation of the SWIOFISH project for few selected sites. The main issues covered are:

l. Fisheries Governance
m. Alternative livelihood
n. Special fisheries issues including Octopus, small and medium pelagic, prawns/lobster and Mangrove planting
o. Recommendations on how to improve the Project to enhance environmental and social outcomes
p. Conflicts

TANGA MUNICIPAL COUNCIL

1. Fisheries Governance

Environmental impact: - The Municipal Director said they are experiencing declining fish production due to destruction of habitats through dynamite fishing, so, if the communities can be educated on fisheries management and the effect of illegal fishing practices, she is expecting more fish in the area.

Social Impact: - She believes the climate variations being experienced now is due to environmental degradation done in the oceans in the past. She reflected on 1982 when she came to Tanga, the climate was good but in 2014 the climate is too bad leading to desert-like conditions in the sea and and land. She insisted that the government is using a lot of resources to help communities cope with lack of rain and depletion of resources. She believes the SWIOFISH project in a long run will reverse the situation.

In her remarks, she insisted that she is ready to cooperate with SWIOFISH project to raise awareness in the communities and she is happy that the foundations which the project is going to build will encourage her institution to take over even after phasing out.

CHONGOLEANI VILLAGE-TANGA CITY

a. Fisheries Governance

All of the participants addressed the trend of their fisheries that there was increase of fishery catch from 2003 to 2008 and decreased catch from 2008 to date; Stock increase was the result of intervention of Tanga Coastal Zone project and stock depletion that they are experiencing today is due to increased illegal fishing activities. The participants agreed that any project which will concentrate in providing education to the communities at large will definitely solve most of the challenges that the communities are experiencing now.

The main challenges from Chongoleani village were:

- Depletion of fish stocks
- Increased dynamite fishing leading to the destruction of habitats
- Fisheries Laws are well planned but no implementation going on today
- No collaboration with Fisheries Officers, MCS and all of the Municipal councils
- Mistrust among the communities and fisheries stakeholders including fisheries officers, MCS, Marine Park Officers etc.
- Increased Migrant fishers to local areas
- Lack of trust of magistrates (give light or no punishment to dynamiters or other illegal fishers)
- Availability of cheap dynamite materials
- Lack of on education on fisheries management and effect of illegal fishing practices

- Lack of funds for daily BMU operations

Community members said that if the SWIOFISH project going to provide education and strengthening the cooperation and communication among stakeholders, the following impacts are expected to happen:

Environmental Impacts

Most of the impacts mentioned were positive including:

Positive

- Within six months to one year natural habitats will start regenerating which will increase fish availability**.**
- The project will strengthen the BMUs to provide permits to fishers and inspect the fishing gears from outside and in their respective villages, this will increase security in the fishing grounds and more fishers will access the fishing licenses, thus more revenues to the district and village councils.
- It was realized from this community that, no or very few community members are involved in dynamite fishing, strengthening the local communities and creating a regular forum involving LGAs, MCS, and magistrate through SWIOFISH project will eradicate dynamite fishing.

Negative

- Many fishers have changed to octopus fishing due to depletion of finfish. When finfish will be available all fishers will go back to fin fishing which will cause more pressure on the fisheries resources

Social Impacts

Positive

- Increasing fish availability means increasing individual fishers income, and employment in fishing industry especially fish processors, middlemen and food vendors
- LGAs and communities will have good cooperation's thus implementation of joint patrols

b. Alternative livelihoods

When discussing alternative livelihood, Chongoleani participants advised bee keeping as it was one of the most successful project. Aquaculture (Milkfish) failed due to lack of education on the availability of fingerlings and even when available, how to carry them was a challenge as majority died on the way. Salt production and farming including Cassava, groundnuts, maize, beans and rice were among the successful projects during Tanga Coastal zone project.

c. Special fisheries issues included in Chongoleani: fishing for Octopus, small and medium pelagic, and prawns/lobster and have done Mangrove planting

- Chongoleani village have a very high potential for Octopus, so any measure which will be introduced in managing this fishery will definitely produce a high quality fishery product and in large quantity. This was learned during the visit as majority of fishers have shifted from finfish to octopus.
- Small and medium pelagic fishes are also available though in small quantity due to increasing illegal fishing practices
- Chongoleani community have planted 300 Hectares out of 350 Hectares during Tanga Coastal zone project, this has created more habitats for prawn fishery and hung 55 bee hives which created a lot of income. This should be a kind of activities SWIOFISH should concentrate on

d. Recommendations as to how to improve the Project to enhance environmental and social outcomes

- SWIOFISH project should concentrate on the lessons learned from Tanga Coastal Zone project in order not to repeat the mistakes done by them and strengthen the positive impacts which have now disappeared after phasing out of the Tanga Coastal Zone project
- SWIOFISH should invest more on provide education and awareness raising to the whole community as this has shown positive results in both environmental and social impacts during Tanga Coastal zone. What was lacking was the sustainability of the BMUs after the phasing out of the project
- District/Municipal councils should be educated on how to continue supporting the BMUs after phasing out of the project
- SWIOFISH project should lobby the LGAs to establish long term sustainability strategies to ensure that BMUs will have support even after phasing out of the project. The strategies may include financial sustainability through channeling some funds via village councils or setting a certain % from fisheries revenues for empowering BMUs or giving tender to BMUs so that they can reserve some % for their day to day operations
- Closed areas have been viewed as the beginning of identifying Marine parks so during SWIOFISH project implementation, one should be careful on how to mobilize the introduction of closed areas or replenishment zones
- In order for the incoming project to be successful, strengthening the cooperation between District authorities, Village governments and BMUs is a must.
- Performing joint patrols involving DFOs, MCS and BMUs, regular follow-ups in all levels and implementing the project in a participatory manner is what will make positive impacts in SWIOFISH project.

e. Conflict

- Communities are quite unhappy with the fisheries officers as they visit them when there is project or visitors but not for empowering communities.
- Patrol activity during Tanga Coastal Zone was through cooperation i.e. planning and implementing together, now it is planned by district authorities. Communities want to be trusted and involved in everything going on with their resources. MCS, Marine Parks and Fisheries officers are performing patrols without involving communities so instead of communities collaborating with them they have become competitors. According to the communities, all of the patrols done without involving them have been not productive at all. This is because the communities know more about what is going on in their area than anybody. Fisheries and MCS officers are leading BMUs but BMUs want cooperation not to be led.
- Introduction of closed areas in Tanga has been a challenge due to fear of introducing of marine parks.
- Communities are upset at migrant fishers because some of the residence fishers are using traps as their fishing method, when migrant fishers come to their area they use beach seine nets which swap everything including the traps. The same applies to closed areas, communities have decided to close area but when migrant fishers come they fish everywhere, this has continued to cause conflict between migrant and local fishers.
- Communities are quite unhappy with magistrate and have given up on sending the culprits to the court; they have decided to let the illegal fishers continue destroying their resources because they feel there is no justice in judging court cases.
- Communities in Chongoleani are thinking that LGAs are doing patrols for their own benefits and not for the sake of managing fisheries resources. For example when BMUs manage to catch a vessel for illegal fishers the DFO or MCS officers responsible used to sell the vessel illegally, and the illegal fisher may come back to the community and threaten the BMUs

<u>Tanga visit to MPA – Modest Kiwia</u>

a. Governance

- SWIOFISH project seems to be more participatory than the MPA, the skills to be gained as a result of project interventions will strengthen governance to the communities. The communities will have better planning skills which will encourage bottom up decision making; this will further strengthen cooperation with other stakeholders including marine Parks. Joint patrols and other communal activities will increase including mangrove planting leading to a stable implementation structures.
- SWIOFISH will work with at least 2/3 of the communities in the respective villages/streets; this will make more understanding of the project to the communities than Marine parks which involve 8-9 community members. The project
- Communities are more contented to work with SWIOFISH model than Marine parks because of the participatory nature of the project.
- The planned trainings and meetings of the project will strengthen cooperation within the institutions

Environmental impacts

POSITIVE:

- Marine parks feel that SWIOFISH project intervention will enhance protection of their reserved areas since their neighborhood will have conservation ideas, thus no much destruction on their side.
- Implementation of project activities is expected to cause decrease of illegal fishing practices in nearby villages that have BMUs which will cause regenerate their resources with time and a quick recovery of their habitats

Social Impacts

POSITIVE:

- Regeneration of resources means more catch, more income and increased employments.

Conflicts

- SWIOFISH project is expecting to involve majority of the community and will have at least 12 meetings per year compared to communities in Marine parks who are having 3 meetings per year. This is likely to cause a conflict between the Village liaison committees (VLCs) in Marine parks as they are not so much involved.
- Planning and decision making in the MPAs does not involve communities and therefore communities have rejected to join their patrols and decided to have their own thus no cooperation in implementation within the MPAs

<u>Shangani East Street - Mtwara Municipal</u>

a. Fisheries Governance

Implementation of the SWIOFISH project will improve governance of the district and the communities which will control access of the resources through BMUs, increase fishing techniques, improve fish stocks and prevent Post-harvest losses. The Fisheries officer argued that if the project is going to solve the following challenges, it is going to cause more positive impacts. The challenges mentioned here were:

- The BMUs were not properly established because they are all not complying with the one stipulated in the BMUs guidelines, therefore most of the BMU members are not fisheries stakeholders. Majority are not permanent residence of Mtwara town, they are migrant fishers and higher officials including a Regional Commissioner
- Management plans established by MACEMP were lacking important implementation techniques and equipment

- There were no detailed trainings provided by MACEMP to help the communities manage the resources
- Only three BMUs out of twenty seven tried to register and have authority over the resources.
- Long processes and bureaucracy in registration of BMUs
- There were too many group members in one group of livelihood during MACEMP project which causes conflicts and the collapse of the activities
- Fishers who were supposed to be targeted group during MACEMP project were not given the alternative livelihood projects
- Fishermen have no habit of attending meetings so during BMU awareness meetings most of the people registered in shangani East (where the big town market is located) were middlemen and food vendors, so even livelihood funds were provided to food vendors and middlemen.
- BMUs were not given the patrol equipment, important tools in guarding the resources.
- BMUs were established but were not strengthened, so until now they are confused since they do not know what to do.
- High government officials are part of dynamiters in the town
- MACEMMP project had so many promises that were not fulfilled
- The MLDF were holding everything and there was no involvement with DFOs, knowing that DFOs were the closest person to the communities but were not well informed.

b. Alternative livelihood

Introduction of alternative livelihood to the fishers will definitely reduce the fishing pressure thus regeneration of fishing habitats, increased fish stocks which will contribute to the individual fishers income

c. **Special fisheries issues** including Octopus, small and medium pelagic, prawns/lobster and Mangrove planting
   - The main fishery here is small and medium pelagic

d. **Recommendations as to how to improve the Project** to enhance environmental and social outcomes:
   - If the Director of fisheries is the registrar of BMUs, he could delegate registration to the regional and district offices to fasten the registration process as it is hindering BMUs not to get tender from their respective district or village governments.
   - BMU guidelines should be revised and avoid higher officials especially in municipals
   - SWIOFISH project should think on better way to involve migrant fishers who have stayed in an area for more than 10 years
   - SWIOFISH project should avoid proposing a kind of livelihood project to the communities. The proposal should come from communities themselves.
   - Successful livelihood group should avoid too many members in one group
   - The project should target in giving alternative livelihood to fishers only.
   - When establishing BMUs in the town, one should make sure that the members belongs to the said street, otherwise most of the fisher in the town are not from the same street, the town is like a market and not a village.

e. Conflicts
   - Migrant fishers in Mtwara have stayed in Shangani East for a long time and they feel that they are been isolated from BMU but BMU is their right even if they are not the permanent member
   - Dynamite materials are practiced near the regional and district offices but nobody is caring. Communities are tired of dynamite but do not know how to get rid of it.

<u>Kilwa Kivinje – Kilwa District</u>

a. Fisheries Governance

- Kivinje communities are experiencing declining of fish stock due to beach seining, poisoning, dynamiting and the use of spear which kills fish eggs and juveniles. Due to declining of the fish catch, they have decided to establish a BMU and if empowered they are sure that their resources are going to recover and they will gain more and more economically. The impact of the project is going to be more positive as it is going to reverse their situation.

Environmental impacts

- Implementation of SWIOFISH project will contribute on the regeneration of habitats resulting into increasing catch and increasing income

a. Alternative livelihood

Introduction of MACEMP livelihood options did not consult village leaders who know the behavior of everyone in the village as a result there were no follow-ups and the projects collapsed.

b. **Special fisheries issues** including Octopus, small and medium pelagic, prawns/lobster and Mangrove planting

- Small and medium pelagic, Octopus and prawns are the main fisheries in Kivinje

c. **Recommendations as to how to improve the Project** to enhance environmental and social outcomes;

- Before introducing any project to the communities, enough education on the matter should be provided
- Any project to be introduced in the communities should consult village leaders, this will ensure enough follow-ups.
- Alternative livelihoods should target fishermen only

d. Conflicts

- Communities are mixing co-management with politics
- Communities do not like closed areas as it is viewed as a marine reserve.

<u>Somanga Village – Kilwa District</u>

a. Fisheries Governance

- Increased education by the project will reduce most of the resource use conflicts
- BMUs will control access and inspect gears so community's expectations here are very high as this will reduce the number of fishers qualifying to access the resources. As a result high availability of fish resulting into high revenue collection to the village and district authorities as well as individual fisher's income.
- When BMU is properly working migrant fishers does not stay. If the BMU is not working the number of migrant fishers increases. The project will contribute to decreasing the number of fishers

b. Alternative livelihood

- Livelihood options are good at keeping people busy out of fishing

c. **Special fisheries issues** including Octopus, small and medium pelagic, prawns/lobster and Mangrove planting

- Small and medium pelagic, Octopus, Lobsters and prawns are available

d. **Recommendations as to how to improve the Project** to enhance environmental and social outcomes;

- Livelihood options if related to the fishing gears should be introduced by the right people who have knowledge in fishing
- Any livelihood activity to be introduced should be given a proper time and research before introducing. The group should professionally be trained depending on the type of project they want.
- Political leaders should be part of the teams during public awareness.

e. Conflicts

- Lack of cooperation and communications between BMUs and LGAs
- Lack of feedback from fisheries officers to Village government leaders
- Lack of joint awareness raising on all levels
- Lack of cooperation with political leaders
- Introduction of closed areas are perceived as Marine parks

Jaja Village – Rufiji District

a. Fisheries Governance

- Challenges
    - Low income of fishers encouraging them to practice illegal fishing
    - No capital for buying better fishing gear
    - High availability of fish in the reef areas but poor fishing vessels to reach the reefs
    - Dynamite fishing practices
    - Availability and cheap dynamite materials
    - Lack of transport as Rufiji Delta area is located in a very remote area
    - High availability of prawns but lacks reliable prawn market,
    - Lack of storage and preservation materials as they get spoiled during high season which is December to April each year.

b. Alternative livelihood

- Groups should be encouraged to invest their own money instead of been given free of charge, this is aiming at causing community ownership than those provide without communities contribution

c. **Special fisheries issues** including Octopus, small and medium pelagic, prawns/lobster and Mangrove planting

d. **Recommendations as to how to improve the Project** to enhance environmental and social outcomes;

- MACEMP project provided the fishing gears that were different from the type of fishing available in the area.
- More follow-ups should be done at the community levels
- Enough education should be provided to the communities before implementation of any project
- The project should assist in introducing specific landing sites for easy inspection of fishers, fish, revenues and data collections

e. Conflicts

- When closed areas are selected without public awareness and agreements

Table 1: Mainland Tanzania Stakeholder Consultation Participants

S/N	Name of Interviewee	Title	Institution
1	Juliana Malange	Municipal Director	Tanga City
2	Mr. Omary Kombo	BMU Member	Chongoleani Village

S/N	Name of Interviewee	Title	Institution
3	Mr Jumbe Mbukuzi	BMU Secretary	Chongoleani Village
4	Mrs Akida Sharifu	BMU member	Chongoleani Village
5	Mr Mbwana Dondo	Fisherman	Chongoleani Village
6	Mr Raphael Mgimwa	Fisherman	Chongoleani Village
7	Mr. Hasan Licholonjo	Municipal Fisheries Officer	Mtwara Municipal Council
8	Mr. Charles Haule	Street Chairperson	Shangani East
9	Mr. Sheha Shamte	Fisherman	Shangani East
10	Ms. Mwanahamisi Mshuti	VLC member	Msimbati Village
11	Mr. Shabani M Ngwele	VLC member	Msimbati village
12	Ms Asha A. Mnengo	VLC member	Msimbati Village
13	Mr.Salim Chingala	VEO	Msimbati Village
14	Mr. Fikiri Moja	VEO	Mtandi Villlage
15	Mr. Oga Dad	DFO	Mtwara Rural
15	Mr Mohamed Manazir	BMU chair	Mgao village
16	Mr. Issa Mfaume Issa	Fisherman	Mgao villae
17	Mr Jamaldin	Fisherman	Mgao village
18	Mr Mussa seleman	Village chair	Mgao village
19	Mr. Onesmo mashimba	Fisheries Officer	Somanga
20	Mr. Hamza Said	VEO	Magengeni –Kivinje
21	Mr. Said Chande	BMU Secretary	Somanga Village
22	Mr. Omary Bakari Nguyu	A chair of patrol Unit	Somanga village
23	Mr Jaffar Ngaima	Village Chair	Jaja Village
24	Mr Omary Kigumi	Fisherman	Jaja Village

Annex 4 – SWIOFish ESA – Zanzibar Stakeholder Consultations Field Report

1. Introduction

This part of the report presents the likely environmental and social impacts that may arise as a result of the implementation of the SWIOFish program. The report presents the following issues:

- Social and environmental impacts related to making fisheries sustainable
- Other activities that fishers could or would want to do if fishing is limited
- Potential conflicts among stakeholders and their resolution mechanisms
- The potential of implementing Village Cooperative Banks (VICOBA) in Zanzibar

The information regarding the above issues was collected through consultations with relevant stakeholders (Table 1) including; some members from 5 Shehia Fishermen Committees (SFCs), individual fishers from both Unguja and Pemba, and staffs from Pemba Channel Conservation Area (PECCA) and staff from the Department of Fisheries Development in Pemba.

2. Findings

Possible Environmental and Social Issues as a result of the project

According to the nature of the activities under the SWIOfish project it is anticipated to have more positive impacts than negative ones. During the field work it was found that the negative impacts are likely to happen when the access to fishing will be limited through implementation of fisheries management measures. For instance, when seasonal closures will be set in some productive reefs in a specified period of time, at the start the livelihood of the fishers will be at a stake. On the other hand, during the opening period fishers may overfish such reefs and destroy the habitats. However, if closures will properly be designed the habitats may become over flourished with fishes accompanied with healthy habitats hence increased community livelihoods.

Other people interviewed especially SFC members from Fumba Shehia insisted that when there will be limited access to fishing there will be very little negative impact to fishers. This is because, traditionally fishers in the Fumba organized themselves for closures and opening periods, also they used habitat-friendly fishing gears that catches only big fishes. This is one of the reasons that led to the formation of Menay Bay Marine Conservation Area (MBCA), whereby Fumba is one of the Shehia within the MBCA. They went further on illustrating current examples of local arrangements initiated by the community that in 2011 some communities in MBCA such as Kikungwi, Bungi and Kibondeni decided themselves to close one of the productive reefs called reef *Uchaza*. Nevertheless, that local arrangement collapsed after few months because of the absence of monitoring. This exemplifies the possibility of implementing local management arrangements initiatives in Zanzibar waters that may have a positive impact to the local livelihoods. However, this gives a picture that if any management initiative is established, effecting monitoring is very important.

Almost all stakeholders interviewed insisted that positive impacts may transpire if community patrols in marine managed areas through SFCs is strengthened. They added that to make community patrols stronger, fishers that fish on the same fishing grounds (e.g 3 - 5 Shehias) should be united and provided with patrol boats (fully equipped) to enforce fisheries laws and bylaws in their areas. Also the District SFC chairs should have at least motorcycles, while SFC Chairs should be provided with mobile phones for easy of communication and reporting of illegal cases in their areas of jurisdiction to the District SFC Chairs for further actions. Also, awareness training on the impacts of illegal fishing should frequently be given to fishers.

What fishers could or would want to do if fishing is limited

Apart from strengthening of community patrol, the interviewed stakeholders recommended a livelihood boost to those that may be affected by the interventions. Almost all said fishers especially small fishers (those who use small vessels without engines and small gears) who fish around near shore areas (where many productive reefs and seagrasses are found) where certain fishing areas might be proposed for

closures (either seasonally or permanently) should be assisted. The following interventions/activities were proposed;

- Alternative livelihood activities should be provided to the ones targeted who are fishers, not other groups as was the case with the phased out-MACEMP project. They are complaining that during the MACEMP time alternative livelihood activities were provided to other groups, not real fishers. Activities to be provided should be researched to see if they fit in the area (suitability and profitability) and should be the ones that the communities have chosen not just given. For instance, in those areas where agriculture is possible fishers should be assisted in the improvement of agricultural practices with the supply of farm implements including establishment of irrigation infrastructure etc., and the like for other activities.
- Local fishers should be assisted in fishing in deep sea by being provided with appropriate fishing equipment, this was a very important point mentioned by all. They said fishers should be assisted with modern fishing gears and vessels to fish in deep sea. Again, they insisted on being given what they want not just be given. Of course technical expertise and trainings should be considered. They added that vessels should be installed with freezers and radio calls because in far areas there is no access to mobile phones and they may spend many days offshore. Market infrastructure such as market buildings with various fish processing facilities like fish driers and freezers should be in place to avoid post-harvest losses that may lead to unprofitable business. It was also observed that almost all fishers who are fishing with big boats and machine do not own those fishing equipment, they are owned by rich people. One caution is that before local fishers are capacitated in carrying out deep sea fishery deep sea a study on carrying capacity should be done to avoid overcrowding and overfishing.
- Fishers should be capacitated on eco-tourism activities. It was noted that boat tourism activity for tourists to various sea sites is a feasible livelihood activity to fishers. Many fishers/SFC interviewed suggests that there should be restriction for some activities not to be conducted by foreign investors or tour operators from Stone Town/outside the village where tourism is being conducted. Local arrangements may be done to authorize local fishers (provided with appropriate equipment) to do the activity. Fishers from Kizingo Shehia (Town District in Unguja) suggested to be given authority to manage some islands around their areas which are frequently visited by tourists. At the same time they can ferry tourists to and from the island so as to increase their income. On the other hand, the Fisheries Officers from Pemba said that studies should be carried out to see the possibility of establishing dolphin tourism and turtle watch at some areas in Pemba such as Misali, Fundo and Matumbini because those species are also found in those areas.
- Small businesses were also mentioned as alternative to fishing. These businesses are those involving travel to town or to the mainland Tanzania and bringing back some goods which are in scarce in the villages. For instance, at Bumbwini Shehia they said fruit business like mangoes from Town to the village pays. These businesses may keep fishers busy when there will be closing seasons in some areas.

Potential conflicts among stakeholders

A number of conflicts related to fisheries have been listed. However, many conflicts are the results of illegal fishing practices in the areas. The list of conflicts mentioned by fishers/SFCs and staffs from PECCA and Fisheries Development in Pemba are between:

- Seine net fishing and basket trap fishery. Fishers/SFCs reported that during their operations seine nets drift basket traps and destroys them.
- Small pelagic fishery (using ring-nets) and large pelagic fishery (using gillnets). Even if the 2 fishing practices are legal, fishers that fish for the large fish, especially those using gillnets, are complaining to those fishing sardines using ring-net (light fishery) that when they fish for small fish, big fish are chased away. However, their complaint has reached the government people and now they are thinking on the best way to reduce this misunderstanding.
- Illegal fishers who fish at night on prohibited areas against legal fishers/SFCs. This is a common conflict in many areas where some marine areas have been set aside for conservation purpose. Illegal fishers come during the night and fish in those prohibited areas.
- Ships versus fishers. This was especially reported in Pemba, that large ships (for research, passengers or luggage) are destroying/cuts their fishing gears (nets) when set in the deep water.

Fishers reported that when they place their gears they put buoys/marks but it seems many ship captains are not aware of the signs or they just ignore the signs.

- Seaweed farmers and fishers. This happens when fishers pass their vessels on seaweed farms. By doing so they cut the ropes and destroy the seaweed.
- Diving for octopus and basket trap fishery. There are some instances where divers steal fish from the basket traps. Although, this was mentioned not to be very common.
- Tourist operators/tourists versus fishers. There is misunderstanding on where should the tourists dive and where should the fishers fish. Although there are set areas for the two activities, it seems most of them are not aware of the demarcation because there are no indication or marks set on sites.

Conflict resolution mechanisms

It was reported that the conflict resolution starts at the local level through SFCs, fishers at first report their cases/issues to their SFCs then the case may proceed upward when the resolution failed at the low levels. It was observed that when the SFCs fails to resolve then the issue goes to the SFCs at the District level, to the Department of Fisheries Development, and to the District Authority. However, it was observed that the modes of conflict resolutions depends on the nature of conflict happened.

It was indicated that procedures for conflict resolutions are very participatory and it is the bottom-up approach. This means they starts from SFC at Shehia level and that not only SFCs are participation in resolving the issues but Shehia leaders, Marine Conservation Areas (MCA) officers and Fisheries Department staffs are also participating. Village elders are also been involved especially at the Shehia level.

This bottom-up approach seems to work well in the villages because the communities are very homogeneous and are related to each other. Therefore many conflicts especially those involving people from the same Shehia end up at the Shehia level. The hard to resolve conflicts mentioned are those between different shehias.

Examples of conflict resolutions reported in the study sites are as follows:

- When nets from Wete Shehia fishers in Pemba were destroyed by the luggage ship which was passing at offshore waters, fishers recorded the ship number and reported the case to their SFC which then took the case to the Fisheries Development Department. The Fisheries Development Department communicated with the Port authority on the issue. The Port authority communicated with the Ship owner and finally fishers were compensated.

- It also happened that tourists reported a case to their tour operator on the issue of seeing fishers fishing on areas where they were diving. The tour operator then reported the issue to the Department of Fisheries Development. After investigation it was seen that the area under the issue was a fishing area, therefore the Fisheries Department gave feedback to the tour operator that the area was right for fishers to fish.

Savings and Credit Cooperatives in Zanzibar

It was observed that there are savings and credit cooperatives in almost in all Shehias in Zanzibar. It was also reported that the Department of Cooperative provides trainings to the unions. It was found that these unions are not solely for fishers but for the entire community in general, that anyone within the community may become a member of a certain group. However, it was found that they are mostly dominated by women.

Fishers/SFCs reported that some fishers are members in those unions and some have joined through their wives. They also said that few men participating in the unions is due to the frequency of meetings that members are required to attend (mostly every week), they said they have no time to report to the groups every week. Others thought that these groups are for women and feel shy to join them.

However, it was noticed that fishers are very much willing to have their own savings and credit cooperatives but awareness and various trainings is needed.

Table 1: Zanzibar Stakeholder Consultation Participants

	Name	Title	Shehia/Island
1	Mohammed Suleiman	SFC Chair	Fumba, Unguja
2	Issa Saidi Mwadini	SFC Member	Fumba, Unguja
3	Bakari Ahmada	SFC Member	Fumba, Unguja
4	Ali Kheri Khamis	SFC Chair	Bumbwini Misufini, Unguja
5	Mtwana Khamis Vuai	SFC Secretary	Bumbwini Misufini, Unguja
6	Muslih Khamis	SFC Member	Bumbwini Misufini, Unguja
7	Kibabe Makame Hadila	SFC Chair	Nungwi, Unguja
8	Ali Makame Madaha	SFC Secretary	Nungwi, Unguja
9	Juma Haji Khamis	SFC Member	Nungwi, Unguja
10	Wasaa Shaa Husein	SFC Chair	Kizingo, Unguja
11	Masoud Nasor	SFC Secretary	Kizingo, Unguja
12	Suleiman Ali Khamis	Fisherman	Kizingo, Unguja
13	Mohammed Kombo	SFC Chair	Wete, Pemba
14	Iddi Nassor	Fisherman	Fundo, Pemba
15	Jecha Kombo	Fisherman	Fundo, Pemba
16	Mussa Khamis Mussa	Fisherman	Chokocho, Pemba
17	Yasin Dadi	Fisherman	Chokocho, Pemba
18	Omar Salum Mohammed	Fisherman	Chokocho, Pemba
19	Ali Mohammed	Fisherman	Chokocho, Pemba
20	Said Mohammed Salim	SFC Chair	Wesha, Pemba
21	Khalfan Omari Kombo	SFC Member	Wesha, Pemba
22	Othman Idi Khamis	SFC District Chair	ChakeChake, Pemba
23	Hakim Salim Omar	SFC Secretary	Wesha
24	Sharif Mohammed	Manager/Head FD	PECCA/FD, Pemba
25	Omari Makame	PECCA officer	PECCA, Pemba
26	Aisha Bakari	Artisanal Fishery	Department (FD), Pemba
27	Khalfan Amour	Planning Officer	FD, Pemba

ANNEX 5: Environmental Screening Forms

SWIOFISH FORM A: Environmental Screening Checklist For Sub-Projects

SWIOFISH FORM C: Simple Environmental Review of Sub-Projects

SWIOFISH FORM D: Limited Environmental Assessment of Sub-Projects

SWIOFISH FORM E: Environmental Management Plan Template

SWIOFISH FORM A: ENVIRONMENTAL SCREENING CHECKLIST FOR SUB-PROJECTS

PART A: GENERAL INFORMATION

1. Name of sub-project: _____
2. Sector: _____
3. Name of the Village/Mtaa/Shehia _____
4. Name of Ward: _____
5. Name of District: _____
6. Name of Executing Agent: _____
7. Name of the Approving Authority: _____

8. Individual Responsible for Completion of Form A

Name: _____

Job title: _____

Telephone Number: _____

Fax Number: _____

E-mail Address: _____

Date: _____

Signature: _____

PART B: DESCRIPTION OF THE ENVIRONMENTAL SITUATION AND IDENTIFICATION OF ENVIRONMENTAL AND SOCIAL IMPACTS

Describe the sub-project location, siting and surroundings (include a map, even a sketch map)

_____
_____
_____

Describe the marine and coastal environment in/adjacent to the sub-project (*e.g.,* types of habitats – mangrove forest, coral reef, tidal mudflat, etc.; animal life and vegetation; topography).

_____
_____
_____

Estimate and indicate where vegetation might be cleared, or structures placed in the water.

_____
_____
_____

1. Environmentally Sensitive Areas or Threatened Species

S/No	Description	Yes	No	Not Known
Are there any environmentally sensitive areas or threatened species that could be adversely affected by the project (specify below)?				
1	Intact natural forests			
2	Riverine forests			
3	Surface water courses or natural springs			
4	Wetlands (lakes, swamps, seasonally inundated areas)			
5	Coral reefs			
6	Seagrass beds			
7	Area of high biodiversity			
8	Habitats of endangered/threatened species for which protection is required under Tanzania law.			

2. Contamination and Pollution Hazards

S/No	Description	Yes	No	Not Known
1	Is there any possibility that the project will be at risk of contamination and pollution hazards from latrines, dump sites, industrial discharge, water discharge, etc.?			
2	Will there be any use of pesticides in the project (if so, refer to Annex 9 for instructions on proper usage)			

3. Geology and Soils

S/No	Description	Yes	No	Not Known
1	Is there any possibility of soil instability in the project area (*e.g.*, black cotton soil, landslide, subsidence)?			

S/No	Description	Yes	No	Not Known
2	Is there any possibility of the area having risks of large scale increase in soil salinity?			
3	Based on inspection, is there any possibility of the area being prone to floods, poorly drained, low-lying, depression or block run-off water?			

4. Lands

S/No	Description	Yes	No	Not Known
1	Are there farm lands in the project area?			
2	Will the project result in more or improved farm lands?			
3	Will the project result in less or damaged farm land?			
4	Will the project result in loss of crops, fruit trees or household infrastructures (*e.g.*, livestock shed, toilets, granaries)?			
5	Will the project interfere or block land access or routes (*e.g.*, for people, livestock)?			

5. Soil Erosion

S/No	Description	Yes	No	Not Known
1	Will the project help to prevent soil loss or erosion?			
2	Will the project directly cause or worsen soil loss or erosion?			
3	Could the project indirectly lead to practices that could cause soil loss or erosion?			
4	It is necessary to consult a soil scientist?			

6. Slope Erosion

S/No	Description	Yes	No	Not Known
1	Does project involve modification of slopes?			
2	Will project affect stability of slopes directly or indirectly?			
3	Should project cause people or property to be located whereexisting unstable slopes could be a hazard?			
4	It is necessary to consult a geotechnical engineer?			

7. Surface Water Quantity

S/No	Description	Yes	No	Not Known
1	Do surface water resources exist in project area?			
2	Will the project increase demand or cause loss of available surface water?			
3	Is it necessary to consult a hydrologist?			

8. Surface Water Quality

S/No	Description	Yes	No	Not Known
1	Will the project lead to additional natural or man made discharges into surface water courses or water bodies?			
2	Could the project cause deterioration of surface water quality?			

3	It is necessary to consult a water quality expert?			

9. Ground Water Quantity

S/No	Description	Yes	No	Not Known
1	Do ground water resources exist in project area?			
2	Will the project increase demand or cause loss of available ground water?			
3	Is it necessary to consult a hydrologist?			

10. Ground Water Quality

S/No	Description	Yes	No	Not Known
1	Will the project cause any natural or man-made discharge into ground aquifer?			
2	Could the project cause deterioration of ground water quality?			
3	Is it necessary to consult a hydrologist?			

11. Marine Water Quality

S/No	Description	Yes	No	Not Known
1	Will the project lead to additional natural or man made discharges into marine water bodies?			
2	Could the project cause deterioration of marine water quality?			
3	It is necessary to consult a marine water quality expert?			

12. Freshwater Ecosystems

S/No	Description	Yes	No	Not Known
1	Are there any freshwater ecosystems in the project area such as rivers, streams, lakes or ponds, which might be considered significant?			
2	Will project affect the use or condition and use of such freshwater ecosystems?			

13. Wetland Ecosystems

S/No	Description	Yes	No	Not Known
1	Are there any wetlands ecosystems in the project area such as marsh, swamp, flood plains, or estuary, which might be considered significant?			
2	Will the project affect the use or condition of such wetlands?			

14. Marine Ecosystems

S/No	Description	Yes	No	Not Known
1	Are there any marine ecosystems in the project area such as coral reefs or seagrass beds, which might be considered			
2	Will the project affect the use or condition of such marine ecosystems?			

15. Terrestrial Ecosystems

S/No	Description	Yes	No	Not Known
1	Are there any terrestrial ecosystems in the project area such as forest, savanna, grassland or desert which might be considered significant?			
2	Will project affect the use or condition of such terrestrial ecosystems?			

16. Endangered/Threatened/Rare/Endemic Species

S/No	Description	Yes	No	Not Known
1	Is the existence of endangered, threatened, rare or endemic species in the project area known?			
2	Will project affect the habitat of any such species?			

17. Migratory Species

S/No	Description	Yes	No	Not Known
1	Do migratory fish, birds or mammals use the project area?			
2	Will project affect the habitat and numbers of such species?			

18. Beneficial Plants

S/No	Description	Yes	No	Not Known
1	Do non-domesticated plants occur in the project area which are used or sold by local people?			
2	Will the project affect these species by reducing their habitat or number in any way?			

19. Beneficial Animals and Insects

S/No	Description	Yes	No	Not Known
1	Do non-domesticated animals occur in the project area which are used or sold by local people?			
2	Will the project affect these species by reducing their habitat or number in any way?			

20. Disease Vectors

S/No	Description	Yes	No	Not Known
1	Are there known disease problems in the project area transmitted through vector species?			
2	Will the project increase habitat for vector species?			
3	Is it necessary to consult a public health officer?			

21. Resource/Land Use

S/No	Description	Yes	No	Not Known
1	Are lands in the project area intensively developed?			

S/No	Description	Yes	No	Not Known
2	Will the project increase pressure on land resources?			
3	Will the project result in decreased holdings by small land owners?			
4	Will the project result in involuntary land take?			
5	Should a land use planner be consulted?			

22. Energy Source

S/No	Description	Yes	No	Not Known
1	Will the project increase the local demand for conventional energy sources?			
2	Will the project create demand for other energy sources?			
3	Will the project decrease the local supply of conventional energy			

23. Degradation of Resources during Construction

S/No	Description	Yes	No	Not Known
1	Will the project involve considerable use of natural resources (construction materials, water spillage, land or energy that may lead to depletion or degradation at point source)?			

24. Distribution Systems

S/No	Description	Yes	No	Not Known
1	Will the project enhance inequities in the distribution of agricultural and/or manufactured products?			
2	Will the project increase demand for certain commodities within			
3	Will the project result in decrease in production or supply of certain commodities within the project area?			
4	Will the project enhance inequities in the distribution of			

25. Employment and Income

S/No	Description	Yes	No	Not Known
1	Will the project increase the rate of employment?			
2	Will the project remove job opportunities from the area?			
3	Will the project increase/decrease income sources or means of livelihood?			

26. At-Risk Population

S/No	Description	Yes	No	Not Known
1	Are the adverse impacts of the project unequally distributed in the target population?			

27. Land Acquisition and Livelihoods

S/No	Description	Yes	No	Not Known
1	Will land be acquired?			
2	Will people's assets or livelihoods be impacted?			
3	Will people loose access to natural resources?			

28. Existing Population

S/No	Description	Yes	No	Not Known
1	Are there currently any people living in or near the project area?			
2	Will the project affect people in or near the project area?			
3	Will community participation in project design and implementation be necessary?			
4	It is necessary to consult a sociologist?			

29. Migrant Population

S/No	Description	Yes	No	Not Known
1	Are there currently any mobile groups in the target population?			
2	Will the project result in the movement of people in or out of the area?			
3	Is it necessary to consult a sociologist?			

30. Cultural and Religious Values

S/No	Description	Yes	No	Not Known
1	Will the project adversely affect religious and/or cultural attitudes of area residents?			
2	Are there special beliefs, superstitions or taboos that will affect acceptance of the project?			

31. Tourism and Recreation

S/No	Description	Yes	No	Not Known
1	Is there at present a significant degree of tourism in the area?			
2	Is there unexploited tourism or recreation potential in the area?			
3	Will the project adversely affect existing or potential tourist or recreation attractions?			

32. Maintenance and Repairs

S/No	Description	Yes	No	Not Known
1	Will the project require frequent maintenance and repair?			

PART C: CONCLUSION

Summary	Safeguard Requirements
☐ All the above answers are "No"	If the above answers are "No", there is no need for further action.
☐ There is at least one "Yes"	If there is at least one "Yes", then either a Simple Environmental Review (SWIOFish Form C), Limited Environmental Review (SWIOFish Form D), or Environmental Impact Assessment is to be completed.

Which courses(s) of action do you recommend?

☐ No further action if sub-project has no impacts.

☐ Simple Environmental Review (ER) if sub-project may create a few minor and readily mitigatable impacts – to be conducted by District Environmental Officer.

☐ Limited Environmental Review (ER) if sub-project may create minor impacts that requires site visit or sub-project design modifications to minimize or eliminate impacts – to be conducted by District Environmental Officer.

☐ Full Environmental Impact Assessment (EIA) if the sub-project may result into potentially significant direct or indirect adverse impacts – further consultation with NEMC (the Mainland) or Department of Environment (Zanzibar) required.

☐ Any other recommendation (explain).

This form has been completed by:

Name: _____

Title: _____

Date: _____

Signature: _____

Approved by :

Name: _____

Title: _____

Date: _____

Signature: _____

SWIOFISH FORM C
SIMPLE ENVIRONMENTAL REVIEW OF SUB-PROJECTS

TYPE OF EXPECTED IMPACT	DESCRIPTION OF IMPACT	PROPOSED MITIGATION MEASURE
PHYSICAL ENVIRONMENT:		
Increased soil erosion?		
Increased sediment load into receiving water?		
Likely contamination of marine or freshwater (surface or sub-surface)?		
Excessive dust or noise during construction?		
BIOLOGICAL ENVIRONMENT:		
Removal or disturbance of natural vegetation?		
Sub-project in core area, buffer area or protection area?		
Disturbance of animal or any locally important habitat?		
SOCIAL ENVIRONMENT:		
Aesthetic degradation of a landscape?		
Degradation or disturbance of a cultural site?		
Transport or use of toxic substance that pose a risk to human health?		
Involuntary displacement of individuals or households?		
Economic losses to individuals or households?		

Report prepared by:

Name:

Position:

Signature:

Date:

Report approved by:

Name:

Position:

Signature:

Date:

SWIOFISH FORM D

LIMITED ENVIRONMENTAL ASSESSMENT OF SUB-PROJECTS

Sub project name:

Location (Village, Ward, District):

Type of sub-project:

Number of people benefiting
from the sub-project:

General Description of the Sub-project

Sub-project Objectives:

Sub-project Components:

Baseline Description of Affected Environment

Description of Physical and Chemical Environment (soil, air, water, etc.)

Description of Biological Environment (habitats, animals, vegetation, etc.)

Description of Socio-economic Environment (e.g., land and natural resource use, vulnerable groups, public health, infrastructure)

(Form D Continued)

Identification of Negative Environmental Impacts

Impacts on the Physical and Chemical Environment

Impact on the Biological Environment

Impacts on the Socio-economic Environment

Mitigation Measures

Description of Impact	**Mitigation measures**

Report prepared by:

Name:

Position:

Signature:

Date:

Report approved by:

Name:

Position:

Signature:

Date:

SWIOFISH FORM E:

Environmental Management Plan Template[37].

If a subproject requires an Environmental Management Plan it will need to describe how impacts identified during the impact assessment process will be mitigated and managed once the project is initiated.

An Environmental Management Plan (EMP) should include the following components. The amount of detail that will need to be provided for each component will depend on the project.

Description of adverse effects: The anticipated effects are identified and summarized.

Description of mitigation measures: Each measure is described with reference to the effect(s) it is intended to deal with. As needed, detailed plans, designs, equipment descriptions, and operating procedures are described.

Responsibilities: The people, groups, or organizations that will carry out the mitigation and monitoring activities are defined, as well as to whom they report and are responsible. There may be a need to train people to carry out these responsibilities, and to provide them with equipment and supplies.

Implementation schedule: The timing, frequency and duration of mitigation measures and monitoring are specified in an implementation schedule, and linked to the overall subproject schedule.

Description of monitoring program: Monitoring provides information on the occurrence of environmental effects. It helps identify how well mitigation measures are working, and where better mitigation may be needed. The monitoring program should identify what information will be collected, how, where and how often. It should also indicate at what level of effect there will be a need for further mitigation. How environmental effects are monitored is discussed below.

Note on Monitoring Methods: Methods for monitoring the implementation of mitigation measures or environmental effects should be as simple as possible, consistent with collecting useful information, so that project proponents can easily apply the methods themselves. For example, they could just be regular observations of subproject activities or sites during construction and then use. Most observations of inappropriate behavior or adverse effects should lead to commonsense solutions. In some cases (e.g.) unexplainable increases in illness or declines in fish numbers), there may be a need to require investigation by a technically qualified person.

Cost estimates and sources of funds: These are specified for the initial subproject investment and for the mitigation and monitoring activities as a subproject is implemented. Funds to implement the EMP may come from the subproject VSL program. Also, government agencies and NGOs may be able to assist with monitoring, which may reduce monitoring costs incurred by the project proponent.

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[37] Adapted from Environmental and Social Management Framework for World Bank Projects with Multiple Small-Scale projects: A Toolkit. World Bank. February 2008

Annex 6: ENVIRONMENTAL IMPACT ASSESSMENT AND AUDIT REGULATIONS NO.349 OF 2005, SCHEDULE I – PROJECTS REQUIRING AN EIA

1. Agricultural
• Cultivating natural and semi-natural not less than 50ha;
• Water management projects for agriculture (drainage, irrigation);
• Large scale mono-culture (cash and food crops);
• Pest control projects (i.e. tsetse, army worm, quelea quelea, locusts, rodents, weeds) etc;
• Fertilizer and nutrient management;
• Agriculture Programs necessitating the resettlement of communities; and
• Introduction of new breeds of crops.

2. Livestock and Range Management
• Large scale livestock movement;
• Livestock markets;
• Introduction of new breeds of livestock;
• Introduction of improved forage species;
• Fencing;
• Provision of public water supply (watering points, wells);
• Ectoparasite management (cattle dips, area treatment);
• Intensive livestock raising units; and
• Livestock routes.

3. Forest activities
• Timber logging and processing;
• Forest plantation and forestation and introduction of new species;
• Selective removal of single commercial tree species; and
• Pest management.

4. Fisheries activities
• Medium to large scale fisheries;
• Artificial fisheries (Aqua-culture for fish, algae, crustaceans shrimps, lobster or crabs); and
• Introduction of new species in water bodies.

5. Wildlife
• Introduction of new species;
• Wildlife catching and trading;
• Hunting;
• Wildlife ranching and farming; and
• Zoo and sanctuaries.

6. Tourism and Recreational Development
• Construction of resort facilities or hotels along the shorelines of lakes, river, island and oceans;
• Hill top resort or hotel development;
• Development of tourism or recreational facilities in protected and adjacent areas (national parks, marine parks, forestry reserves etc) on island sand in surrounding waters;
• Hunting and capturing;
• Camping activities, walk ways and trails etc.;

• Sporting and race tracks/sites; and
• Tour operations.

7. Energy Industry
• Production and distribution of electricity, gas steam and hot water;
• Storage of natural gas;
• Thermal power development (i.e. coal, nuclear);
• Hydro-electric power-electric power;
• Bio-mass power development;
• Wind mills power development;
• Solar (i.e. Impact due to pollution during manufacture of solar devices, acid battery spillage and improper disposal of batteries); and
• Nuclear energy.

8. Petroleum Industry
• Oil gas fields exploration and development, including seismic survey;
• Construction of offshore and onshore pipelines;
• Construction of oil and gas separation, processing, handling and storage facilities;
• Construction of oil refineries;
• Construction of product depots for the storage of petrol, gas, diesel, tar and other products within commercial industrial or residential areas; and
• Transportation of petroleum products.

9. Food and beverage industries
• Manufacture of vegetable and animal oils and fats;
• Oil refinery and ginneries;
• Processing and conserving of meat;
• Manufacture of dairy products;
• Brewing distilling and malting fish meal factories;
• Slaughterhouses;
• Soft drinks;
• Tobacco processing;
• Caned fruits, and sources;
• Sugar factories; and
• Other agro-processing industries.

10. Textile in industry
• Cotton and synthetic fibres;
• Dye for cloth; and
• Ginneries.

11. Leather industry
• Tanning;
• Tanneries;
• Dressing factories; and
• Other cloth factories.

12. Wood, pulp and paper industries
• Manufacture veneer and plywood;

• Manufacture of fibre board and of particle –board; and
• Manufacture of pulp, paper, sand-board cellulos – mills.

13. Building and Civil Engineering Industries
• Industrial and housing estate;
• Major urban projects (multi-storey building, motor terminals, markets etc);
• Tourist installation;
• Construction and expansion/upgrading of roads, harbours, ship yards, fishing harbours, air fields and ports, railways and pipelines;
• River drainage and flood control works;
• Hydro-electric and irrigation dams;
• Reservoir 8. Storage of scrap metal;
• Military installations;
• Construction and expansion of fishing harbours; and
• Developments on beach fronts.

14. Chemical industries
• Manufacture, transportation, use and storage of pesticide or other hazardous and or toxic chemicals;
• Production of pharmaceutical products;
• Storage facilities for petroleum, petrochemical and other chemical products (i.e. filling stations); and
• Production of paints, vanishes, etc.

15. Extractive industry
• Extraction of petroleum;
• Extraction and purification of natural gas;
• Other deep drilling bore holes and wells;
• Mining;
• Quarrying;
• Coal mining; and
• Sand dredging.

16. Non-metallic industries (products)
• Manufacture of cement, asbestos, glass, glass fibre, glass wood;
• Processing of rubber;
• Plastic industry; and
• Lime manufacturing, tiles, ceramics.

17. Metal and engineering industries
• Manufacture of other means of transport (trailers, motor cycles, motor vehicle bicycles –bicycles);
• Bodybuilding;
• Boiler making and manufacture of reeser4voirs, tanks and other sheet containers;
• Foundry and forging;
• Manufacture of non ferrous products;
• Iron and steel; and
• Electroplating.

18. Waste treatment and disposal
(a) Toxic and Hazardous waste

• Construction of incineration plants;
• Construction of recovery plant (off-site);
• Construction of secure land fills facility;
• Construction of storage facility (off-site); and
• Collection and transportation of waste.
(b) Municipal solid waste
• Construction of incinerator plant;
• Construction of composting plant;
• Construction of recovery/re-cycling plant;
• Construction of municipal sold waste landfill facility;
• Construction of waste depots; and
• Collection and transportation.
(c) Municipal sewage
• Construction of wastewater treatment plant;
• Soil collection transport and treatment; and
• Construction of sewage system.

19. Water supply
• Canalization of water coursed;
• Diversion of normal flow of water;
• Water transfers scheme;
• Abstraction or utilization of ground and surface water for build supply; and
• Water treatment plants.

20. Health projects
• Vector control projects (malaria, bilharzias, trypanosomes etc).

21. Land Reclamation and land development
• Rehabilitation of degraded lands;
• Coastal land reclamation;
• Dredging of bars, grayness, dykes, estuaries etc; and
• Spoil disposal.

22. Resettlement/relocation of people and animals
• Establishment of refugee camps;

23. Multi-sectoral Projects

24. Agro-forestry
• dispersed field tree inter cropping;
• alley cropping;
• living fences and other liner planting;
• windbreak/shelterbelts;
• taungya system;
• Integrated conservation and development Programs e.g. protected areas;
• Integrated pest management (e.g. IPM); and
• Diverse construction – public health facilities schools, storage building, nurseries, facilities for ecotourism and field research in protected areas, enclosed latrines, small enterprises, logging mills,

manufacturing furniture carpentry shop, access road, well digging, camps, dams reservoirs, river basin development and watershed management projects food aid, humanitarian relief.

25. Trade: importation and exportation of the following
- Hazardous chemicals/waste;
- Plastics;
- Petroleum products;
- Vehicles;
- Used materials;
- Wildlife and wildlife products;
- Pharmaceuticals;
- Food; and
- Beverages.

26. Policies and Programs
- Decisions of policies and Programs on environmental and development;
- Decisions to change designated status;
- Family planning;
- Technical assistance; and
- Urban and rural land use development plans eg. Master plans, etc.

Annex 7: ENVIRONMENTAL IMPACT ASSESSMENT AND AUDIT REGULATIONS NO.349 OF 2005, SCHEDULE II – PROJECTS THAT MAY/MAY NOT REQUIRE AN EIA

1. Fish culture
2. Bee keeping
3. Small animal husbandry and urban livestock keeping
4. Horticulture and floriculture
5. Wildlife catching and trading
6. Production of tourist handcrafts
7. Charcoal production
8. Fuel wood harvesting
9. Wooden furniture and implement making
10. Basket and other weaving
11. Nuts and seeds for oil processing
12. Bark for tanning processing
13. Brewing and distilleries
14. Bio-gas plants
15. Bird catching and trading
16. Hunting wildlife ranching
17. Zoo, and sanctuaries
18. Tie and dye making
19. Brick making
20. Beach sailing
21. Sea weed farming
22. Salt pans
23. Graves and cemeteries
24. Urban livestock keeping
25. Urban agriculture
26. Fish landing stations
27. Wood carving and sculpture
28. Hospitals and dispensaries, schools, community center and social halls, playground
29. Wood works e.g. boat building
30. Market places (livestock and commodities)
31. Technical assistance
32. Rainwater harvesting
33. Garages
34. Carpentry
35. Black smith
36. Tile manufacturing
37. Kaolin manufacturing
38. Vector control projects e.g. malaria, bilharzias, trypanosomes
39. Livestock stock routes
40. Fire belts
41. Tobacco curing kilns
42. Sugar refineries
43. Tanneries
44. Pulp plant
45. Oil refineries and ginneries
46. Artisanal and small scale mining

Annex 8
ACTIVITIES WHICH DO NOT REQUIRE EIA CERTIFICATE AND WHICH DO REQUIRE AN EIS IN ZANZIBAR

THE ENVIRONMENTAL MANAGEMENT FOR SUSTAINABLE DEVELOPMENT ACT, 1996

SCHEDULE 1

Activities which do not require an EIA certificate

1. Any domestic, private and non-commercial activity.
2. Operating a small-scale shop.
3. Operating a small-scale business employing fewer than 10 people.
4. Operating tours, other than dives, and travel agencies.
5. Engaging in rainfed agriculture over an area of less than 10 hectares.
6. Operating a small-scale warehouse for storage of non-hazardous substances.
7. Providing commercial clearing and forwarding services.
8. Providing office and professional services.
9. Operating an air charter service.
10. Maintaining roads if the work does not involve upgrading or expansion of road.

SCHEDULE 2

Activities which require an EIS

1. Developing a major residential area.
2. Operating a manufacturing industry with hazardous waste and by-products.
3. Operating a power generation plant.
4. Operating an oil refinery.
5. Operating a sewage treatment and disposal system.
6. Operating a water supply system.
7. Operating a solid waster disposal system.
8. Developing an area in a port, harbour or marina.
9. Reclaiming land.
10. Developing hotels or resorts of 100 beds or more.
11. Engaging in irrigated agriculture of 20 hectares or more.
12. Engaging in aquaculture.
13. Developing environmentally sensitive areas, including forests, mangroves, small islets and water catchments.
14. Degazetting an existing area protected under the laws of Zanzibar.

Annex 9: SWIOFish Guidelines on the use of Pesticides in Subprojects

The World Bank Safeguard Policy on **Pest Management (OP 4.09)** is intended to promote the use of biological or environmental controls to reduce the reliance on synthetic chemical pesticides. While no procurement of pesticides or pesticide application is currently envisaged for Bank-funded project activities, it is possible that an aquaculture operation initiated through SWIOFish supported investment schemes may choose to use aquatic herbicides or antibiotics. While such use is considered unlikely and should be discouraged in any discussions about project design, the following process should be used in the event that pesticides are used as part of a subproject.

Rules for Safe Handling of Pesticides

All pesticides are poisonous and thus rules have to be observed to avoid human health impairment and environmental pollution. In addition to material safety data sheet (MSDS) accompanied with any given pesticide, the following general rules will have to be observed:

- Keep only closed original containers with labels.
- Keep pesticides under lock and key in a cool, dry and ventilated place away from fire, food, feed, water and out of reach of children. In the same room also the spraying equipment can be stored.
- Pesticides should be shelved and the floor be of cement to be able to detect leakage and clean it early enough where applicable.
- Equipment for weighing and mixing pesticides should only be used for this purpose and be locked in the store.
- Protective clothing should be used only for spraying purposes.
- Absorb spillage immediately with sawdust or earth; sweep up, burn or bury. Have cement floor for better cleaning.
- Do not re-use empty containers. Empty containers should be burnt if possible or crushed and bury in a sanitary landfill.
- Use a well aerated store and sales room.
- Instruct your personnel on safety precautions before (!) it is too late.
- Make contacts to a qualified physician for emergencies.

In view of the above, the use of protective equipment and capacity building on pesticide management aspects, which would be the responsibility of the applicant/ recipient, will be critical.

Recommended Pesticides in Tanzania

Table A9-1: List of recommended and TPRI registered pesticides for crop production in Tanzania[38]

Chemical	*Common name*	**Oral LD50/kg*	*WHO class*	*Comments*
Insecticides	Betacyfluthrin	500-800	II	
	Biphenthrin			
	Chlorpyrifos	135-163	Ib	Deregister & Phaseout
	Cypemethrin	251-4125	III	
	Cypermethrin + Dimethoate	251-4125 + 2350	III	
	Deltamethrin	153-5000	III	
	Dealtamethrin + Dimethoate	153-5000+2350	III	
	Diazinon	220	II	
	Dimethoate	2350	III	
	Esfenvalerate	451	II	
	Fenitrothion	800	II	
	Fenvalerate	451	II	
	Fenvalerate + Fenitrothion	451+ 800	II	
	Flucythrinate			
	Hydrmethyl			
	Lambda cyhalothrin	243	II	

[38] This table has been slightly updated. Important notice is that an extraordinary meeting of the National Plant Protection Advisory Committee (NPPAC), a body responsible for review of the pesticide list, took place in February 2014; the new list has been approved and the Pesticide Registrar's Office is expected to publish the list before June 2014.

Chemical	*Common name*	**Oral LD50/kg*	*WHO class*	*Comments*
	Permethrin	430-4000	III	
	Pirimiphos methyl	2050	III	
	Pirimiphos methyl + permethrin	2050 + 430-4000	III	
	Profenophos	358	II	
	Profenophos + cypermethrin	358 + 251-4123	II	
	Quinalphos	62-137	Ib	Deregister & Phaseout
Nematicides	Dazomet	520	II	
	Isazophos	40-60	Obsolete	Deregister & Phaseout
Herbicides	Atrazine			
	Diuron			
	Fluometuron			
	Glyphosate			
	Metolachlor + Atrazine			
	Metalachlor + Dipropetrin			
	Paraquat			Dirty Dozen: should be banned with immediate effect
Chemical	*Common name*	**Oral LD50/kg*	*WHO class*	*Comments*
Avicides	Fenthion		II	
	Cyanophos		II	
Rodenticides	Bromodiolone		Ia	

Chemical	*Common name*	**Oral LD50/kg*	*WHO class*	*Comments*
	Coumatetralyl		Ia	
	Diphacinone		Ia	
Fungicides	Bronopol			
	Chlorothalonil	10,000+	III	
	Copper hydroxide	1,000	II	
	Copper oxychloride	70-800	II	
	Cupric hydroxide	1,000	II	
	Cuprous oxide			
	Cyproconazole	1,000	II	
	Hexaconazole	2189	III	
	Mancozeb	5000+	III	
	Metalaxyl + Mancozeb	633 + 5000+	III	
	Penconazole			
	Propineb	1,000	II	
	Triadimefon	1,000	II	
	Sulfur			

As expressed in the footnote above, the above list is subject to review by relevant authorities in Tanzania. SWIOFish will adhere to reviewed list(s) that will be released by such authorities any time during the implementation of the project. As part of monitoring and evaluation, the project will also inform the authorities of pesticides required to be phased out for reported health concerns.

Pesticides Banned in Tanzania

The following pesticides considered as persistent organic polluntants (POPs) are banned in Tanzania and will therefore not recommended for use: Aldrin, Camphechlor; Chlordane; Ddt; Dibenzofurans (Chlorinated); Dieldrin; Endrin; Heptachlor; Hexachlorobenzene; Mirex; Polychlorinated Biphenyls; and Polychlorinated Dibenzo-P-Dioxins.

On the other hand, the importation and use of chemicals indicated in the table below are Subject to the Prior Informed Consent (PIC) procedure in Tanzania.

Table A9-2 List of pesticides whose use are subject to the Prior Informed Consent (PIC) procedure in Tanzania

Chemical	Categor	Registration Status in Tanzania	Import Decision
2,4,5-T and its salts and esters	Pesticide	Not registered	No consent
Aldrin	Pesticide	Restricted registration for use in soil against termites	Consent
Binapacryl	Pesticide	Not registered	No consent
Captafol	Pesticide	Banned since 1986	No consent
Chlordane	Pesticide	Restricted registration for use in soil against grubs, termites, ants and crickets	Consent
Chlordimeform	Pesticide	Not registered	No consent
Chlorobenzilate	Pesticide	Not registered	No consent
DDT	Pesticide	Banned for agricultural use, restricted for public health	Consent for public health
Dieldrin	Pesticide	Restricted registration for emergency cases in limited amount	consent
Dinitro-*ortho*-cresol (DNOC) and its salts (such as ammonium salt, potassium salt and sodium salt)	Pesticide	Not registered	No consent
Dinoseb and its salts and esters	Pesticide	Not registered	No consent
1,2-dibromoethane(EDB)	Pesticide	Restricted registration for fumigation application on soil	consent
Ethylene dichloride	Pesticide	Not registered	No consent
Ethylene oxide	Pesticide	Not registered	No consent
Fluoroacetamide	Pesticide	Not registered	No consent
HCH (mixed isomers)	Pesticide	Not registered	No consent
Chemical	**Category**	**Registration Status in Tanzania**	**Import Decision**
Heptachlor	Pesticide	Registered for use in various crops against termites and other soil pests	consent
Hexachlorobenzene	Pesticide	Not Registered	No consent
Lindane	Pesticide	Registered hides and skins	Consent
Mercury compounds, including inorganic mercury compounds, alkyl mercury compounds and alkyloxyalkyl and aryl mercury	Pesticide	Not Registered	No consent
Monocrotophos	Pesticide	Not registered	No consent
Parathion	Pesticide	Banned in 1986	No consent
Pentachlorophenol and its salts and esters	Pesticide	Not registered	No consent
Toxaphene	Pesticide	Banned in 1986	No consent
Dustable powder formulations containing a combination of: - Benomyl at or above 7 per cent,	Severely hazardous pesticide formulation	Not registered	No consent
Monocrotophos (Soluble liquid formulations of the substance that exceed 600 g active ingredient/l)	Severely hazardous pesticide	Not registered	No consent
Methamidophos (Soluble liquid formulations of the substance that exceed 600 g active ingredient/l)	Severely hazardous pesticide	Not registered	No consent

Chemical	Categor	Registration Status in Tanzania	Import Decision
Phosphamidon (Soluble liquid formulations of the substance that exceed 1000 g active ingredient/l)	Severely hazardous pesticide	Not registered	No consent
Methyl-parathion (emulsifiable concentrates (EC) at or above 19.5% active ingredient and dusts at or above 1.5% active ingredient)	Severely hazardous pesticide	Banned in 1986	No consent
Parathion (all formulations – aerosols, dustable powder (DP), emulsifiable concentrate (EC), granules (GR) and wettable powders (WP) - of this substance are included, except capsule suspensions	Severely hazardous pesticide formulation	Not registered	No consent

Source: Designated National Authority - Prior Informed Consent Procedure (DNA PIC)

Annex 10: Tanzania SWIOFish ESA Final Stakeholder Validation Workshops

Mainland Tanzania Stakeholder Validation Workshop Report

The final Stakeholder Validation Workshop for the South West Indian Ocean Fisheries Governance and Shared Growth (SWIOFISH) Environmental and Social Assessment (ESA) was held on 22 July 2014 at the Tansoma Hotel, Kariakoo, Dar es Salaam. The purpose of the one-day workshop was to present, discuss and solicit feedback from key stakeholders on the findings and recommendations of the SWIOFish ESA, which included an Environmental and Social Management Framework (ESMF) and a Process Framework (PF). The workshop was attended by over 35 participants, including 10 women, from various locations from the five coastal regions of Tanzania, of whom 10 were women. Around half of the participants were from the coastal communities, including BMU and village leaders; as well as District Authorities including Fisheries Officers, academic institutions including university of Dar Es Salaam, and central government organizations including the National Environmental Council (NEMC), Tanzania Fisheries Research Institute (TAFIRI) and the Ministry of Livestock and Fisheries Development (MLFD).

The workshop was opened by the Director of Fisheries Development, MLFD, Hosea Mbilinyi. In his opening speech the Director said he was very grateful to have community representatives including women in the meeting and that the ideas in the ESA report and the implementation of the SWIOFISH project will absolutely be participatory. He further emphasized that the stakeholder workshop meeting was needed to ensure that the ESA report content will make the implementation of SWIOFISH project environmentally and social friendly. He clarified that the project will be supported with a loan from the World Bank, so that each stakeholder's commitment was needed to bring a fruitful result and sustainability at the end of the project. He encouraged every stakeholder to make sure that indigenous knowledge in the targeted coastal communities is taken into consideration and applied in order to maintain cultural and social participation of the society in the project.

After the opening speech, all the participants introduced themselves, followed by a PowerPoint presentation of the ESA report by the lead consultant, including time for questions and answers. The workshop participants were then were divided into four work groups to discuss their feedback to the ESA and SWIOFish project and provide recommendations on how to improve the ESA draft report and the overall project. Each group discussed three questions posed by the consultant. The results of these work groups were then presented and discussed in a final plenary session (see questions and responses below).

The workshop ended with closing remarks provided by the Director of Fisheries. He said he was very encouraged by participants' contribution and that awareness raising on crosscutting issues like HIV/AIDS, corruption, climate change, and womens' participation should be an important part of the report and the implementation of the SWIOFISH project.

Workgroup Questions and Responses

Question 1: Do you agree with the ESA assessment of environmental and social risks and opportunities presented by SWIOFish?

Group 1 answered "Yes." Their reasons were:

- the assessment of the project involved the community
- the report gave the processes and recommendations on mitigation measures on expected risks

(Note: during the plenary session the Director of Fisheries added a comment, saying the private sector was involved at all levels as they contribute in enhancing markets and improving infrastructure.)

Group 2 answered "Yes," but they would like clarification on whether suggested measures are workable, meaning they would have liked to see the consultant give a live example of a project and a place where things like this have been practiced and became successful

Group 3 answered "Yes," but with few shortcomings:

- The issue of markets should be clarified more
- Currently established VICOBAs (village community banks) should be strengthened instead of establishing a new ones
- The dangers of establishing new enterprise groups for the purpose of getting loans should be looked at carefully
- Some opportunities like pearl (oyster) culture, salt production and mangrove planting should be added in the report (*Note: these activities do appear in the full report but were not highlighted in the workshop presentation*)

Group 4 answered "Yes," and added that most of the fisheries issues are addressed in the report

Question 2: Are there other risks or opportunities that are not captured in the ESA?

Group 1:

Risks mentioned by this group were:

- Pulling factors were more evident than pushing factors, i.e. the report was more focused on positive impacts to valued assets than on potential negatives
- Gender distribution and how women will be affected by the project was not detailed in the presentation
- Impacts of other big projects e.g. Oil and Gas exploration

Opportunities mentioned by this group were:

- Learning experience for others
- Transformation of behavioral change
- Harmonization among the stakeholders during the implementation of the project
- Improvement of critical marine ecosystems, fish population, community health and livelihood

Group 2:

Risks mentioned by this group were:

- Political interference – politics, which has been the biggest challenge along the coast, was not captured in the presentation
- Corruption
- Climate change coping strategy not addressed (Note: *Director noted this issue was not part of ESA scope and is being be addressed by a separate consultant study*)
- Unbalanced investment along the coast denying fishermen access to traditional landing areas. Hotels along the beach should be addressed because of the mushrooming investors in Tanzania. The project should stress how the Government should address the issue including compelling hoteliers to follow rules and regulations

Opportunities mentioned by this group were:

- Participation of stakeholders at all levels through the chain of the processes will be strengthened

Group 3:

Risks mentioned by this group were:

- More clarification on climate change (*see Director's comment above*)
- Shifting of leaders in LGAs, like shifting a DED from any coastal district who is aware of the project and bringing in someone else who is not familiar with coastal environment
- Increased tourism leading to increasing number of hotels and other infrastructures along the beach
- Poor supervision

Group 4:

Risks mentioned by this group were:

- HIV/AIDS and other communicable diseases
- Public health
- Child labor
- Safety at sea for artisanal fishers
- Corruption should be addressed at the activity level

Opportunities mentioned by this group were:

- BMUs should be strengthened and united to form CFMAs
- Gender issues – women's participation should be insisted on in project processes and should be given priority during enterprise development

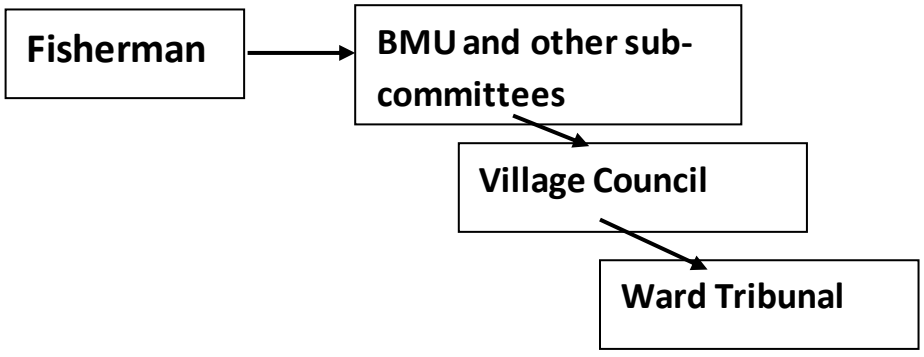
Question 3: Do you have suggestions for other mitigation measures for SWIOFish to implement?

Group 1 suggested:

- To reflect on and include culture, religion issues and other indigenous knowledge
- Publicity-to make sure that every tangible result in each of the project process is publicized

Group 2 suggested:

- The group suggested some possible changes to the proposed Process Framework Grievance structure, suggesting the last level should be the district and not the High court. They suggested modifying the Grievance Mechanism escalation flow chart as follows:



- Involve influential persons including cultural and religious leaders in the process and management of the project

Group 3 suggested:

- Climate change
- Coordination of the project at the district level should consider fisheries professionals

Group 4 suggested:

- Dynamite fishing (*also referred to by the Director as "Bomb fishing"*) should be addressed as the national issue and not a sectoral issue
- The project coordination should include fisheries specialists
- BMUs/CFMAs should be strengthened and legislated (*Suggestion from the Director*)
- The project should consider sustainability of the fisheries resources after phasing out e.g. development of fisheries development funds

Table 1: Mainland Tanzania SWIOFish ESA Final Validation Workshop Participants

	Name	**Title/Organization**
1	Hosea Gonye Mbilinyi	Director, MLFD
2	Maria Pentzel	KMC FSO
3	Omari Kigani	BMU Rufiji
4	Jafari Ngaima	BMU Rufiji
5	Flora Agwilapo	NEMC
6	Hassan Juma	Tanga RS
7	Temu Pastory	Sea Sense
8	Omari Bushiri	BMU Tanga
9	Amin Abdallah	MPRU
10	Akidi S. Omari	BMU Tanga
11	Omari Shali	BMU Tanga
12	Arnold Mbunda	FETA Mbegani
13	Saidi Chande	BMU Kilwa
14	Omari Nguyu	BMU Kilwa
15	Fatma Sobo	MLFD
16	Oga Dadi	Mtwara DC
17	Ritha Mally	MLFD
18	Redfred Nedwo	Mnazi Bay Marine Park
19	Mohamedi Abala	BMU Mtwara
20	Asha Abdalla Mnengo	VRS Mtwara
21	Hassan Licholonjo	Mtwara-Mkindani
22	Flora Luhanga	MLFD
23	Bulayi Me	MLFD
24	Theddy Chuwa	Temeke Municipality
25	Edgar Kipoki	WAFTCO

	Name	Title/Organization
26	Ezra K. Mutagwaba	MLFD
27	Bertha Shija	MLFD
28	Baraka Kuguru	TAFIRI
29	Msongo Songoro	Municipal Council
30	Dr. Bennaiah Benno	UDSM
31	Jairos Mahenge	MPRU
32	Ernest Milimo	MLFD
33	Selemani Mvungi	MLFD
34	John Kisanko	MLFD HQ
35	Emmanual Chikolo	MBREMP
36	Hassan Kalambo	Tanga RAS

Zanzibar Stakeholder Validation Workshop Report

The final Stakeholder Validation Workshop for the South West Indian Ocean Fisheries Governance and Shared Growth (SWIOFISH) Environmental and Social Assessment (ESA) was held on 24 July 2014 at the Zanzibar Beach Resort Hotel in Zanzibar. The purpose of the one-day workshop was to present, discuss and solicit feedback from key stakeholders on the findings and recommendations of the SWIOFish ESA, which included an Environmental and Social Management Framework (ESMF) and a Process Framework (PF). The workshop was attended by nearly 50 participants, including around a dozen women, from various locations from Unguja and Pemba islands. Participants included several representatives from Shehia Fishers' Committees as well as marine Conversation areas, as well as from Zanzibar central government, academia, civil society and the private sector.

The workshop was opened by the Director of Fisheries Development for the Zanzibar Ministry of Livestock and Fisheries (MLF), Mussa Jumbe. In his opening remarks he welcomed the participants and emphasized the importance of the SWIOFish project for Zanzibar and the need to consider the environmental and social implications of the project.

After the opening remarks, all the participants introduced themselves, followed by a PowerPoint presentation of the ESA report by the lead consultant, including time for questions and answers. The workshop participants were then were divided into four work groups to discuss their feedback to the ESA and SWIOFish project and provide recommendations on how to improve the ESA draft report and the overall project. Each group discussed three questions posed by the consultant. The results of these work groups were then presented and discussed in a final plenary session (see questions and responses below).

Workgroup Questions and Responses

Question 1: Do you agree with the ESA assessment of environmental and social risks and opportunities presented by SWIOFish?

Group 1 answered "Yes," but had some additions:

- The environment part needs to be emphasized more as the SWIOfish project when implemented will have some impacts on the project and subprojects (e.g. fish pond construction for mariculture)
- The use of illegal gear: dredging on sea grass beds and corals

Group 2 said: "We don't have enough time and information to either agree or disagree with the information presented." As an example, they said the PowerPoint slide describing potential impacts on valued environmental assets was too short and did not provide enough details

Group 3 said they agree with the ESA, but that the information should be more specific to Zanzibar.

Group 4 said they agree with the ESA, saying it was comprehensive

Question 2: Are there other risks or opportunities that are not captured in the ESA?

Group 1

Risks mentioned by this group included:

- Climate change issues are not considered
- Environmental risks related to the project and selected priority fisheries: mariculture, pollution, oil and gas exploration
- We didn't hear issues on gender adaptive capacity in relation to both socio and environmental impacts
- Conflicting interest on uses of small pelagic (e.g. anchovies) for mariculture and human use
- Continuous use of bottom seaweed culture methods using sticks (which is overexploiting wood from the forests) and trampling on sea bed affecting the natural habitats
- Conflict of interest between resource users, e.g.
    - Rampant anchoring of boats taking tourists to dive
    - Seaweed farmers, fishers and hoteliers
    - Kite surfing at Paje

Opportunities mentioned by this group included:

- If the environment is well managed the fish catch will increase and this will improve community living standards
- Tourist hotels as potential buyers of large pelagic fish will have positive impact on fish trade

Group 2

Opportunities mentioned by this group included:

- How is tourism, which is the main growing economic industry in Zanzibar, going to be involved with SWIOFish, especially in terms of no take zones?
- For example, will tourism be restricted within MPAs?

Risks mentioned by this group included:

- There is no mention of oil and gas and how this is going to affect the environment

Group 3

Risks mentioned by this group included:

- Shifting of illegal fishers to other places (i.e. when prevented from fishing in one area they move to another)
- Conflict between users of resources e.g. seaweed vs. foot fishers

Opportunities mentioned by this group included:

- increasing of economic activities e.g. healthiier ecosystems in conserved areas (tourism and agriculture)
- Employment creation

Group 4

Risks mentioned by this group included:

- Conflicts may happen after restricting fishing in some areas. What should be the mitigation measures?
- Grievance committees are well captured in communities and at the national level but are not well captured at the regional level (deep sea fishing)

Question 3: Do you have suggestions for other mitigation measures for SWIOFish to implement?

Group 1 suggested:

- Finding cheaper and affordable feed for fish e.g. use of fish offals
- Developing alternative seaweed farming techniques which do not use a lot of wood
- Zoning in the marine waters (e.g. kiting sites, water sports, fisher anchoring spots)
- SWIOFish should conduct research or find ways to:
    - completely stop or reduce use of illegal gear as this problem has been going on for more than three decades, or to
    - develop good user friendly gears that are not detrimental to the environment
- SWIOFish should facilitate a process to equip the MLF with an active research unit and build capacity for this unit.

Group 2 suggested:

- Possible creation of a multi-stakeholder body similar to the proposed Marine Legacy Fund to participate in project decision-making processes e.g. multi-agency government body that includes private stakeholders

Group 3 suggested:

- Improved Bylaws
- Improved Zoning for coastal and marine activities

Group 4 suggested:

- Strengthening indigenous knowledge and values [i.e. making use of this knowledge that exists at community/fisher level
- Restriction of octopus fishing (short-term closings)

Table 2: Zanzibar SWIOFish ESA Validation Workshop Participants

	Name	**Title/Organization**
1	Mussa Jumbe	Director, DFD
2	Hamad Said	Ministry of Finance
3	Hashim Rune	GIM Sea Co. Ltd.
4	Sihaba Vuai	Dept. of Environment

	Name	Title/Organization
5	Mkuba Khamis	Fisheries MIMCA
6	Ali Mzee Othman	ZNCCIA
7	Farhat Mbarouk	Dept. of Environment
8	Mohammed Hafidi	ZNCCIA
9	Makame Haji	Fisheries
10	Enock Kayagambe	Chumbe Island
11	Ramla Omar	SWIOFish Coordinator, MLF
12	Naimu Ramadhan	Director RADLGAS
13	Mtumwa Ame Haji	Zanzibar Planning Commission
14	Mohammed Salim	DMR-Extension office
15	Yahya J. Mwadini	PDRASD
16	Hamad Khatib	DMR
17	Bahati Khamis	Fisheries
18	Ummi Mohammed	Fisheries
19	Othman Juma	ZCT
20	Ashura Haji	ZCT
21	Daud Pandu	DFD
22	Christian Chilcott	ZATI
23	Asha Khatib	SWIOFish Coordinator, DSFA
24	Mchanga Khamis	DFD
25	Mohammed Suleiman	MBCA
26	Mohammed Chum	MIMCA DFD
27	Mohammed Soud	DMR
28	Narman Jiddaw	IMS
29	Anas Othman	MBCA
30	Haji S. Haji	MCS
31	Ali Mkarafuu	DFD
32	Mohammed Said	DMR
33	Amne Said Ali	MLF
34	Saleh Yahya	IMS
35	Asha Ahmed	Fisheries
36	C. A. Muhando	IMS
37	Amour Mlenge	WMU
38	Ashura Mwinyi	WMU
39	Jaala Khamis	DFD
40	Asma Othman	WMU
41	Hishim Muumin	DMR
42	Hassan A. Mzee	ZATO
43	Khamis Sharif Haji	SFC Secretary, PECCA
44	Ali Said Hamad	DMR Pemba
45	Hidaya Khamis Hamad	DMR Pemba
46	Sharif Mohammed	Fisheries Pemba
47	Muumi Idd Hamad	DMR
48	Rhama Soud Dadi	ZBC Radio
49	Hadia Kombo Hussein	ZBC TV
50	Mohammed Fadhil Mzee	ZBC TV
50	Hababi Mohammed	Coconut FM