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# Independent Final Evaluation

Republic of the Sudan

Surveys of Renewable Marine Resource  
in the Red Sea State

Project No. TE/SUD/12/004



UNITED NATIONS  
INDUSTRIAL DEVELOPMENT ORGANIZATION



**UNIDO EVALUATION GROUP**

**Independent Final Evaluation**

**SURVEYS OF RENEWABLE MARINE  
RESOURCES IN THE RED SEA STATE**

UNIDO Project Number TE/SUD/12/004



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## Glossary of Evaluation Terms

Term	Definition
Baseline	The situation, prior to an intervention, against which progress can be assessed.
Effect	Intended or unintended change due directly or indirectly to an intervention.
Effectiveness	The extent to which the objectives of a development intervention were or are expected to be achieved.
Efficiency	A measure of how economically inputs (through activities) are converted into outputs.
Impact	Positive and negative, intended and non-intended, directly and indirectly, long term effects produced by a development intervention.
Indicator	Quantitative or qualitative factors that provide a means to measure the changes caused by an intervention.
Intervention	An external action to assist a national effort to achieve specific development goals.
Lessons learned	Generalizations based on evaluation experiences that abstract from specific to broader circumstances.
Logframe (logical framework approach)	Management tool used to guide the planning, implementation and evaluation of an intervention. System based on MBO (management by objectives) also called RBM (results based management) principles.
Outcome	The achieved or likely effects of an intervention's outputs.
Outputs	The products in terms of physical and human capacities that result from an intervention.
Relevance	The extent to which the objectives of a development intervention are consistent with beneficiaries' requirements, country needs, global priorities and partners' and donor's policies.
Risks	Factors, normally outside the scope of an intervention, which may affect the achievement of an intervention's objectives.
Sustainability	The continuation of benefits from an intervention, after the development assistance has been completed
Target group	The specific individuals or organizations for whose benefit an intervention is undertaken.

## List of Acronyms

ACORD	Agency Cooperation and Research in Development
ACP Fish II	African, Caribbean and Pacific (Group of states)
APF	African Park Foundation
CBS	Central Bureau of statistics
CDCF/MRI	Center for Development Cooperation in Fisheries at the Institute of Marine Research
CIDA	Canadian International Development Agency
EIA	Environmental Impact Assessment
ESPA	Eastern Sudan Peace agreement
ET	Evaluation Team
EU	European Union
FAO	Food and agriculture Organization
FMRS / FRI	Fisheries and Marine Research Station /Fisheries Research Institute
GDP	Gross Domestic Products
GEF	Global Environmental Fund
HCENR	Higher Council For Environment and Natural Resources
IP	Integrated Program
IUCN	International Union for the Conservation of Nature
MAF	Ministry of Agriculture and Forestry
MANR	Ministry of Agriculture, Animal Resources, and Fisheries at state level
MFA	Marine Fisheries Administration
MPA	Marine Protected Areas
NAPA	National Adaptation Program of Action
NCS	National Comprehensive Strategy
NSP	National Strategy Plan
PERSGA	Program for Environment of the Red Sea and Gulf of Aden
RSS	Red Sea State
RSSU/ FMSF	Faculty of Marine Science and Fisheries – Red Sea State University
TC	Technical Committee
UNDP	United Nations Development programme
UNEP	United Nations Environment Programme
UNIDO	United Nations Industrial Development Organization
WB	World Bank

## Executive Summary

This document presents the external evaluation of the project entitled "survey of renewable marine resources" which was implemented in the Red Sea State (RSS) of the Republic of the Sudan, as a joint venture between UNIDO and the Center for Development Cooperation in Fisheries at the Institute of Marine Research (CDCF/IMR). The purpose of the project was to build the knowledge base of the marine fisheries sectors in order to develop a marine fisheries strategy plan in the RSS.

The objectives of this planned two-year project (2012/13 with an option to extend for one additional year to 2014) were to supply a) New and updated Information (knowledge), b) Strengthened capacities, and c) to transfer knowledge and know how.

The justification for designing this project was to provide new and updated information on marine resources in the RSS through strengthening of the capacities of the related institutions that could facilitate the development of both the artisanal and semi- industrial fisheries.

The evaluation was carried out by an independent evaluation team composed by Mr. Cristóbal Vignal (international evaluation consultant), and Ms. Khalda Abuzaid (national evaluation consultant). It was conducted from November 2013, to February 2014, and a field mission took place from 19<sup>th</sup> to 25<sup>th</sup> November 2013. The evaluation was carried out based on a review of all available literature and official project documents, semi structured interviews with key persons, discussion with related stakeholders, and meeting with donor, staff of the project, as well as with CDCF/MRI experts and governmental representatives. A field visit allowed for direct observation of the project activities during the final survey campaign in November 2013.

### **Objective, Scope and Methodology**

The objectives of the evaluation were to enable the Government of the Republic of the Sudan, the Norwegian Government (the donor), counterparts, UNIDO and other stakeholders to: (a) verify prospects for development impact and sustainability of the main objective and specific objectives of the project; (b) to enhance project relevance, effectiveness, efficiency and sustainability by proposing a set of recommendations with a view to ongoing and future activities and particularly on a possible second phase of the project; (c) to draw lessons of wider applicability for the replication of the experience gained from this project at a national and regional level.

The key question for this evaluation were to understand the extent to which the project has made a contribution to improving the knowledge basis on marine renewable resources and; to strengthening the capacities of the Marine Fisheries Administration, the Red Sea Research Institute and the Red Sea University.

The evaluators consider that documentary information, as well as information collected in the field, was sufficient to allow for establishment of a baseline for the project. The sources of information were sufficient to verify and document progress and constraints encountered during the assessment. Information obtained also allowed the evaluation team (ET) to verify that progress to date corresponds to activities, outputs and outcomes, as set up in the logical framework of the project.

### **Key Findings**

The project has illustrated the ecology and complexity of the marine resources habitats. The biological research allowed for the development and understanding of marine fisheries of the EEZ and the information provided will contribute to the drawing of a road map for preparation of sustainable management guidelines and a

framework strategy for fishery sector development. *The conclusion is that there has been progress in the understanding of the fisheries dynamics as the result of the project.*

The overall project assessment rates Relevance, and Efficiency as highly satisfactory and Effectiveness as Satisfactory. In terms of Sustainability the project is assessed as moderately likely. Overall the project is assessed as Satisfactory.

Criterion	Evaluator's Summary Comments	ET Rating
<b>Attainment of project objectives and results (overall rating)</b> Sub criteria (below)		<b>S</b>
Effectiveness	Rating of S given as one output not fully realized yet	<b>S</b>
Relevance		<b>HS</b>
Efficiency		<b>HS</b>
<b>Sustainability of Project outcomes (overall rating)</b> Sub criteria (below)		<b>ML</b>
Financial		<b>ML</b>
Socio Political		<b>ML</b>
Institutional framework and governance	Some weaknesses require addressing	<b>ML</b>
Ecological	Project has not yet delivered measurable results	<b>ML</b>
<b>Monitoring and Evaluation (overall rating)</b> Sub criteria (below)	No shortcomings were evidenced by the evaluation	<b>S</b>
M&E Design		<b>S</b>
M&E Plan Implementation (use for adaptive management)		<b>S</b>
Budgeting and Funding for M&E activities		<b>S</b>
<b>UNIDO specific ratings</b>		<b>S</b>
<b>Quality at entry</b>	Shortcomings as regards awareness raising and capacity building in support of stakeholders	<b>S</b>
<b>Implementation approach</b>		<b>HS</b>
<b>UNIDO Supervision and backstopping</b>		<b>HS</b>
<b>Overall Rating</b>		<b>S</b>

**RATING SCALE:** Highly Satisfactory (HS), Satisfactory (S), Moderately Satisfactory (MS), Moderately Unsatisfactory (MU), Unsatisfactory (U), Highly Unsatisfactory (HU).

## Conclusions and Recommendations

<b>CONCLUSION 1</b>	<b>Maximizing Opportunities</b>
	<b>Recommendation 1</b>
Mechanisms are not in place to ensure data is integrated at the federal level into ongoing efforts to update and unify legislation for the fisheries sector	State / Federal coordination mechanisms should be strengthened to ensure the effective utilization of the project outputs and the eventual realization of desired impacts
<b>Contributing Conclusions</b>	<b>Supportive Recommendations</b>
There is a risk of missing the opportunity to capitalize on UNIDO investment (funds and expertise) by not actively engaging both with State <u>and</u> Federal governments	Efforts to develop a comprehensive and integrated budget, for modernizing fisheries assessment and management, should be encouraged and supported  Synergies should be explored with other ongoing / soon to be concluded / future activities (i.e. landing sites) as these could provide real time verification of data (catches) providing elements to validate assessment of existing stocks
<b>CONCLUSION 2</b>	<b>Collaborating with Stakeholders</b>
	<b>Recommendation 2</b>
Collaboration and coordination mechanisms between different stakeholders at the State / Federal level are not in place	Communication and cooperative arrangements with and between federal and state level decision makers and stakeholders should be established
<b>Contributing Conclusions</b>	<b>Supportive Recommendations</b>
Federal and state level ministries, such as the Wildlife and Tourism, Industry are not involved in the project  Community and grass root level stakeholders are only informally involved in the project, if at all	Efforts should be made to ensure broad participation of decision makers and stakeholders at all levels, from government to fishermen
<b>CONCLUSION 3</b>	<b>Strengthening the Data</b>
	<b>Recommendation 3</b>
Surveys are essential to ensure long-term sustainability of fisheries in the RSS, however a longer time series (minimum of 5 years) is required to provide scientifically sound and statistically meaningful data	Efforts should be pursued to ensure the continuation of the surveys so that solid data (stock assessment) can be obtained and validated

Contributing Conclusions	Supportive Recommendations
<p>Fishing gear developed and deployed (traps) did not consider the indigenous capture knowledge and will not necessarily be replicated (cost, weight)</p> <p>Specific knowledge transfer tools for the fishermen (simple brochure, pamphlets, posters) have not been developed. These would facilitate sharing and replication and contribute to increase economic self reliance</p>	<p>In order to make sustainable progress towards collecting the data, it could be necessary to improve / adapt tools for stock assessment</p> <p>Future iterations of the project should consider the inclusion of a strong public awareness component (workshops, educational material, brochures, media campaigns, etc.)</p>

**Overarching recommendations on the way forward**

**A comprehensive management plan and fisheries development strategy for the marine resources in the EEZ should be developed, ensuring that all related sectors are involved, placing emphasis at the local level (communities).**

**As well, the project should seek to support the empowerment of the fishing communities by providing training and guidance based on sound scientific principles.**

## 1 Introduction

The project “Surveys of Renewable Marine Resources in the Red Sea State, Republic of the Sudan” (TE/SUD/12/004) was expected to develop the knowledge base of the marine fisheries sectors in order to develop a marine fisheries strategy plan in the Red Sea State at the Republic of the Sudan. It was implemented from 2012 to 2013 with a total budget of €1.262.250

The purpose of the terminal evaluation<sup>1</sup> is to enable the Government of the Republic of the Sudan, the Norwegian Government (the donor), counterparts, UNIDO and other stakeholders to:

- (a) Verify prospects for development impact and sustainability, providing an analysis of the attainment of the main objective and specific objectives of the project with a specific reference to delivery and completion of project outputs/activities, and outcomes/impacts based on indicators;
- (b) Enhance project relevance, effectiveness, efficiency and sustainability by proposing a set of recommendations with a view to ongoing and future activities and particularly on a possible second phase of the project;
- (c) Draw lessons of wider applicability for the replication of the experience gained from this project at a national and regional level.

The key question for this evaluation was to understand the extent to which the project has made a contribution to:

- Improving the knowledge basis on marine renewable resources;
- Strengthening the capacities of the Marine fisheries administration, the Red Sea Research Institute and the Red Sea University.

In particular the Evaluation Team (ET) was to obtain and verify information demonstrating the existence of evidence as regards:

- New and updated information on marine renewable resources;
- Strengthened capacities;
- Knowledge and know how transfer.

The evaluation was carried out by an independent evaluation team composed by Mr. Cristóbal Vignal (international evaluation consultant), and Ms. Khalda Abuzaid (national evaluation consultant). It was conducted from November 2013, to February 2014, and a field mission took place from 19th to 25th November 2013.

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<sup>1</sup> Terms of reference for the Terminal Evaluation of the Sudan Marine Resources Assessment

## 2 Scope and Approach of the evaluation

### 2.1 Information sources

Through the documentary information and the information collected in the field, the evaluators consider that there was sufficient evidence to allow them to establish a baseline for the project.

Sources of information were sufficient to verify and document the progress and, constraints encountered during the assessment; data and information derived from interviews are qualitatively satisfactory and, this was verified through comparison of figures from different sources and through crosschecked interviews with relevant actors in an independent way, showing that respondents views and contributions were in full agreement.

In addition, information obtained allowed the ET to verify that progress to date corresponds to the activities, outputs and eventual outcomes, as set out in the logical framework of the project. This also allowed the ET to verify that progress is measured by indicators defined in the logical framework.

### 2.2 Evaluation Approach

The methodology for the assessment was based on:

- A review of project documents;
- Interviews with the Project Implementation Unit (PIU), personnel associated with project management, country focal points, project beneficiaries, and key players from NGO's and staff of academic centers of Sudan relating to the implementation of the Project;
- Field visits in Port Sudan, in the Red Sea State, Sudan, for on-site observation of the implementation of the final trap survey and results obtained, in December of 2013.

In addition, the information obtained allowed the Evaluation Team (ET) to verify that progress to date corresponds to the activities, outputs and outcomes set out in the logical framework of the project and that they are measured by the indicators defined in the logical framework.

The interviews carried out satisfactorily ensured that the views and experiences of all relevant stakeholder categories (men/women, project staff/participants, beneficiaries and non-beneficiaries, and funders) were appropriately included.

Documentary information and information collected in the field lead the evaluators to consider that there was sufficient evidence to allow them to establish a baseline for the project and that sources of information were sufficient to verify and document the progress and constraints encountered during the assessment. In addition, data and information derived from interviews are considered to be qualitatively satisfactory and were verified through comparison of figures from different sources and through crosschecked interviews with relevant actors in an independent way, showing that respondent's views and contributions were in full agreement.



## 3 Country and project background

### 3.1 Country context

The Republic of the Sudan is the largest country in Africa, split in two on July 19th 2011, formalizing the independence of the Republic of South Sudan. Sudan is rich in both underground and surface natural resources that have remained mostly under developed because of political and economic constrain. The country's important natural resources include: forest, wildlife, coastal and marine resources, pasture and rangeland, arable lands and water. Sudan is endowed with petroleum and a range of metallic and non-metallic minerals, including: gold, silver, copper, iron ore, manganese, zinc, gypsum, salt, marble and granite.

Sudan is located between latitudes 8 and 22 degree north, longitudes 22 and 38 degree east (as July 2011), in the north-eastern of Africa. The area of Sudan is 1,882,000 square kilometers, borders seven countries, namely, Egypt, Libya, Chad, Central Africa Republic, and Republic of South Sudan, Ethiopia, Eretria and the Kingdom of Saudi Arabia across the Red Sea.

The main ecological zones of Sudan extend from the arid zone to the North of the Sudan to the tropical low lands at the South of the country and are as follows:

- Arid region
- The Nile River rain strip
- Savannah
- Sahel Belt including central dry lands agricultural belt
- The Marrah Plateau
- Nuba Mountain
- Wetlands and flood plains
- Tropical lowlands
- Sub - tidal Coastline and Island

The rainy season occurs during the summer, extended from May to October (the Red Sea State has different time of rainy season) with precipitation ranging between less than 50mm in the extreme north to 1500mm in the south (as July 2011). However, rainfall is characterized by significant variation in distribution as well as in timing and location, in some areas of the country has been steadily decreasing over the last 40 years, and Sahara desert is advancing at a rate of about one mile a year, eliminating grazing land and water holes. Thereby magnifying the risks of the localized crop failure, to alleviate this risk, mechanized rain- fed schemes have been established and spread over the central Sudan.

The temperature varies between 27C to 32C across the country, the most extreme temperature are found in far north of the Sudan, the summer temperature can often exceed 43C. These regions typically experience virtually no rainfall.

The Central Bureau of statistics (CBS), 2011 estimated the population of the Sudan at 39 million, growing at 2.7%, with more than 30 million living in the rural area, the majority of population are farmer and pastoralists living on subsistence farming and livestock herding in a nomadic way of life. Over 80% of Sudanese's employment takes place in the agricultural subsector of the economy.

### 3.2 Socioeconomic overview

Political instability and prolonged lawlessness have wracked Sudan and ruined the country's prospects for long-term investment and economic development.

The development of the oil sector during the last decade has led to a sharp rise in foreign investment, and also increased consumption of imports over domestic's goods. However, although some significant investments were made in physical infrastructure, in the important services sector, these have been only marginally expanded (economy- environment- health – agriculture – water and sanitation – industry – trade – productive capacity).

The secession of the Republic of South Sudan resulted in an 80% decline in foreign currency earnings and 35.6% reduction in budget revenue (oil product decreased - WB 2009).

Social conditions vary widely, with 46.5% of the population living under the national poverty level (less than US \$ 1/ a day). According to the CBS 2009 baseline household survey 46.5% of Sudanese people are considered poor.

The large informal economy continues to be an important source of production and employment for the fragile economy. Sudan had an estimated gross domestic product (GDP) of US \$58 billion in 2008. Agriculture was responsible for 26% of the GDP and industry and services 34% and 40% respectively. The livelihood of the population and the source of the internal and external trade are based on primary commodities, over 80% of Sudanese employment takes place in the agriculture subsector of the economy and the contribution of this sector is highest during four last decades (report 2009 – Higher Council for Environment and Natural Resources - HCENR).

79% of Sudan's exports are in low value primary commodities or agro- based industrial production. The principal exports are; cotton, groundnut, sesame seeds, gum Arabic, sorghum grains, livestock, hides and skins. The agro- based industrial production includes such goods as flour, biscuits, sweets, tomato paste, animal feed concentrate, vegetable oil ... etc.

### 3.3 Policy and Legal framework:

At the federal level Sudan adopted several policies and strategic plans relating to environment and natural resources, including:

- **Decentralization of Natural Resources Management Policy;**

The Decree gave the State the responsibilities over their land and management of their natural resources.

- **The National Comprehensive Strategy (NCS) 1992 – 2002**

Spells out objectives and priorities for sustainable development, and accordingly, environmental issues must be embodied in all development projects. The NCS stressed the adoption of the following policies and activities:

1. Planning of development project must consider, continuous productivity, renewability of resources, and application of technology appropriate to environment and lifestyle.
2. Environmental impact assessment (EIA) is requirement for any development project.
3. Establishment of national body with branches in the State to guide, coordinating and supervise environmental activities.
4. Improvement and updating of environmental legislation.

5. Use of incentives, charges and taxes to encourage environment friendly activities and intervention.

- **Draft National Water Policy (1999 – 2006)**
- **National Action Plan to Combat Desertification (1998)**
- **Five Year National Strategic Plan (NSP; 2007 - 2011)**

The NSP provides a framework for focusing and coordinating Sudan's peace processes and development efforts.

- **The Marine Fisheries Ordinance (1937)**

Aimed at regulating fishing and use of marine resources in territorial waters and was in use until its amendment and renaming as the Marine Fisheries Regulation in 1975. Although there is no national Fisheries Policy, in 2002 Sudan launched the Quarter Century Strategy (2002–2027) setting out a series of guiding objectives for the fisheries sector including the need to involve stakeholders in the management process. In a country with such clear potential a national guidance document is needed.

- **Preparation of a Fisheries Policy for Sudan 2012 to 2013**

Federal Ministry of Agriculture, Animal Health and Natural Resources unifying legislation and policies for the fisheries sector are being drafted, with the assistance of the ACP program of the EU – The ET was informed that these are expected to be approved in 2014

- **Conventions and Agreements**

Sudan signed over nine conventions and agreements before the Stockholm Conference. After Stockholm, Sudan signed and ratified over eight conventions covering issues such as; Cultural Heritage, Endangered Species, Law of the Sea, Conservation of the Red Sea and Gulf of Aden, Combating Oil Pollution, etc.

### 3.4 Red Sea State Context and Specificities

The Red Sea State (RSS) is the only state in the Republic of the Sudan bordering the sea. It occupies an area of 218,887 km<sup>2</sup> (84,532 sq miles) and is located in northeastern Sudan, bordering Egypt to the North, the Kassala State to the South, the River Nile state to the West and the Red Sea to the East.

The State is divided into eight localities (Mahallies): Port Sudan, Suakin, Gunub/Aulib, Snikat, Hayya, Halaib and Tokar/Agig. The capital of the State is Port Sudan which was founded in 1905 to replace the old port of Suakin, considered unable to accommodate the increase in maritime traffic resulting from the expansion of agricultural schemes in Sudan.

The RSS can be divided into three distinct physical areas:

- The coastal strip, 20 to 50 km wide and approximately 750 km long;
- The hilly area; and,
- The flat western plains.

The state lies within the arid and semi arid sub-zone. Numerous seasonal streams drain from the hills known as Khors and there are two major deltas in Red Sea State, one in the north called Arba'at Delta and the other in the South, called Tokar Delta.

Temperature around Port Sudan varies from a winter minimum of 10 - 12°C, a summer maximum of over 40°C, with average air temperature in May often

exceeding 35°C. Surface sea water temperatures range between 26.2 to 35°C, while at greater depth these can range from 23.9 to 25.9°C.

Rainfall is highly variable in quantity and distribution, though the main seasonal trends can be identified on the coast and in the interior hilly area. The average annual rainfall on the Sudanese coast is about 111 mm, but it is only after torrential rains, the coastal plain receives most of rainfall in winter, which occurs mainly in November and December till April. In the interior hills normally receive rainfall earlier in the year, between July and August. Thereby some fresh water inputs in the sea. Four main types of soil can be identified in RSS, saline soils along the coast, rock soils in the hills area, sandy soils in the western plains and silt and light clay in Khors area.

### **Population**

Estimates of population of the state vary widely. According to the 2008 census (CBS2008), the population stands at approximately 800,000 to 850,000, representing 28% of the population of the RSS, 29.5% of its households and 71.7% of its urban population, (RSS, ibid and UNDP 2010). Bejia is the main indigenous group, which includes Bisharia, Amar'ar (Atmaan) and Hadendowa and the Bishariyyin, other groups include Beni Amer and Rahaida from Eastern Sudan. Port Sudan is a distinctly multi-ethnic city, which includes Northern Sudanese and other minorities (Egyptians – Yemenis – Indians – Syrians – Greek as well as Fallata and Hawsa from West Africa, have been long time resident, as well as internally displaced persons (IDP) from Darfur and the Nuba Mountains, and refugees from Eritrea and Ethiopia.

### **Livelihood**

Like many of the other pastoralist populations in the Sahelian Belt, the Beja pastoralists and agro-pastoralists live in a dry environment; there is no balance between population and other elements of the ecosystem. The main features are; high rainfall variability, scarcity of water, low natural productivity and extreme temperatures. Beje pastoralists adopted a set of flexible strategies to cope with a complex ecosystem (drought and famine) that aim to facilitate survival by exploitation of multiple resources.

### **Socio - Political Issues**

In October 2006 The Eastern Sudan Peace Agreement (ESPA) was signed, laying down a framework for rehabilitation and development of the marginalized region focusing on capacity building, strengthening of infrastructure, poverty reduction and return of refugees and IDPs. This Agreement is considered to have the potential to stimulate economic diversification.

### **Wildlife, Marine Wetlands and Marine Protected Areas (MPAs) in the Red Sea State:**

The Sudanese Red Sea is still fortunate to have attractive and most unique marine and shore land habitats. There are coral reefs, mangroves stands, sea grass beds, and rich biodiversity including: fish and shellfish, Sharks, Dugongs, Turtles and a variety of sea birds.

- Wildlife

Due to lack of water in the desert plains, wildlife is extremely limited, and constituted of species such as Dorcas Gazelle, Oribi and other small reptiles, animals and birds. Large predatory animals are limited (Jackal and Leopard). The mountains bordering the Red Sea host a low density population of Wild Sheep and Nubian Ibex.

- Marine Wetlands

Marine wetlands on the RSS are considered as important habitats for resident and migratory birds. The coast is part of fly over routes for soaring and migratory birds from Eurasia to Africa. The coast includes various small-uninhabited islands with low or no vegetation. These islands are important breeding sites for birds such as; Gulls, Terns, Crab Plovers, Boobies, Ospreys, Sooty Falcons and Spoonbills. There are also fringing coral reefs, sandy beaches, bays and mangroves. The Mukawwar, Mayelits and Talila islets form a small archipelago lying offshore of the fishing town of Mohammed Goal. Further north lays DOUNGONAB bay.

Mangroves are highly productive ecosystems providing food and shelter for a large number of species (over 30 different fish species are reported, several of them commercially important) and mangroves are also essential habitats for numerous birds.

- Marine protected areas (MPAs) in the Red Sea State;

#### 1) Sanganeb MPA (was declared in 1992 by the government of the Sudan)

Sanganeb atoll, a unique geological structure, has high species richness and a large number of **flagship species** (Sharks ... etc). It was identified since the 1980's as a potential World Heritage Site. The Sanganeb MPA is located approximately 30km northeast of Port Sudan. Sanganeb is a small atoll by global standards and the reef is widely reported to be the only atoll in the Red Sea given it encloses a large central lagoon and rises 800m from the base of the continental shelf. The Sanganeb MPA is not populated and is not an important traditional fishing ground.

#### 2) DUNGONAB Bay and Muakwwar Island MPAs (declared a biosphere reserves in 2005 by the government of Sudan)

Dungonab Bay and Mukawwar Island are biosphere reserves and considered to be representative of the unique Red Sea marine ecosystem. Dungonab bay and Mukawwar Island are located approximately 160 km northeast of Port Sudan and the total area of the park is about 2,800 km<sup>2</sup>, (800 km<sup>2</sup> of land, the rest being the marine area). Dungonab Bay incorporates reefs, islands, khors, sand and mud, sea grass beds, some mangroves and offshore habitats. The park is considered a turtle nesting site, and also an important bird area (IBA). Dugong population in this park may be the most important remaining one on the coast of Africa.

### 3.5 Overview of the Fishery Sector in the RSS

The RSS is the only state in the Republic of the Sudan bordering the sea with a coastline of 750 km and an Exclusive Economic Zone (EEZ) of 91,600 km<sup>2</sup>, including a shelf area of 22,300 km<sup>2</sup>. Weak currents characterize Sudan's Red Sea territorial waters, as well as a lack of upwelling phenomena, weak tides, high water temperatures, high salinity and lack of permanent rivers and fresh water inflows. Runoff water, except for seasonal khors during the rainy season, has no negative

impact on the productivity and organic production of the fishers sector in the RSS. In spite of the high biodiversity of aquatic life, the exploitation emphasis has been historically placed on harvesting wild mollusks and finfish. Both activities are largely traditional and for subsistence. The marine fisheries sector is still under developed.

Most fishing activities in the ocean are carried out by the artisanal sector using traditional gear, craft, and fishing techniques and are confined to the near shore area, targeting finfish, shrimp, mollusks and sea cucumbers. Fishing activity takes place off shore – in the coastal area – and in the lagoon bay. There are approximately 1,900 to 2,500 registered fishermen (no recent census records are available along the coastline) and the operating fishing fleet is comprised of approximately 410 units. These include dugouts (hourri), wooden and steel boats (feluccas) and launches (sambouk). Fishing gear used by local artisans includes poles and lines, long line trawling, cast and gill nets, and beach seines.

Investments in commercial fisheries have been limited in recent years. The small-scale industry, fish trawlers and highly mechanized vessels operate on a seasonal basis, focusing on pelagic, demersal fish and shrimp resources.

Landing sites and fishing villages along the coastline are divided into three localities: northern - central (Haliaib) – Port Sudan and, southern (Suakin and Agig).

Fisheries Communities are of various ethnicities, and some of these are enrolled in associations and/or trade unions such as:

- Refuges Cooperatives Society (Suakin)
- Auseri Fisheries Union
- East Coast Fishermen Union
- Red Sea Boat Owners
- Union of Marine Production
- Mohammed Goal Fisheries Association

### **3.5.1 Fisheries Institution Framework**

The Ministry of Agriculture, Animal Resources, and Fisheries at the state level is responsible for the marine resources. The Ministry actively promoted and maintained the welfare of the people by adopting policies to alleviate poverty and ensure food security. These policies consider the concept of sustainable utilization of marine resources.

The MFA is directly responsible for fisheries management, development, regulations and legislation enforcement in the RSS, and is housed at state level under the Ministry of Agriculture, Animal Wealth and Natural Resources. The Fisheries and Marine Research Station (FMRS) are responsible for research and studies of marine resources. Marine Protected Areas are under the responsibility of Wildlife Conservation in the Federal Ministry of the Interior. The Faculty of Marine Science and Fisheries is contributing through provision of training and research. The fishermen civil society and other NGOs assist with public awareness activities.

### 3.5.2 Fisheries legislation and Regulation Measures in the RSS

#### Fisheries Law of RSS

The State Governor approved Fisheries (management) Legislation Act of 2005 is the current guiding document for this sector in the country and covers the following regulatory measures:

- Regulation of access:
  - Licensing for local fishermen and fishing craft
  - Special permits for foreign vessels, subcontracts to Sudanese counterpart.
- Mesh (gear) Regulations:
  - Standard Mesh size for fishing is recommended
  - Checks are performed during routine inspection by the MFA
  - Legal prohibition of explosives, poisons and spear guns in fishing
- Closed area:
  - Fishing is completely forbidden in MPAs
- Closed season:
  - These apply to shrimps grounds where fishing is not allowed during the breeding season (mid March to mid August)
- Input control:
  - Vessel and fishing gear registered
  - Import of fishing gear and craft need initial approval.

### 3.6 Sector-specific issues of concern

The country faces critical environmental challenges, including severe land degradation, deforestation, desertification and the impact of climate change. However, environmental degradation, competition for limited natural resources and climate change has been a driver in causing armed conflicts.

Weak management of the environment is widely recognized as a contributing factor to poverty and leading to conflict in Sudan, especially in areas where livelihoods are highly dependent on the direct utilization of natural resources (conflict based on natural resources).

Sudan is typical of other developing countries in Africa in being highly vulnerable to climate change and climate variability. The interaction of multiple stresses is occurring at several levels: limited water resources in large areas of the country, common occurrence of droughts, a high reliance on rain-fed agriculture, endemic poverty, natural resources and ecosystem degradation, complex disasters and conflicts, plus limited access to capital, markets, infrastructure and technology. These have all weakened the people's ability to adapt to changes in climate. Sudan's National Adaptation Program of Action (NAPA) was completed in 2007. Five agro-ecological zones were identified as having a high degree of vulnerability (Desert zone, semi desert and savannah on sand and clay soil zones).

## 4 Project summary

The marine fisheries sector in the Republic of the Sudan is still considered as underdeveloped, presenting potential for developing both artisanal and semi-industrial fisheries in support of the creation of job opportunities, eradication of poverty and increased supply of fish to the national market, thereby contributing to the national economic diversification strategy. In this context UNIDO was requested to provide technical assistance for the preparation of the fishery sector development strategy.

### 4.1 Project Fact Sheet

<b>Country</b>	<b>Republic of the Sudan</b>
<b>Project title</b>	Surveys of Renewable Marine Resources in the Red Sea State, Republic of the Sudan.
<b>Area of Implementation</b>	Red Sea State, Republic of the Sudan.
<b>Project site</b>	Coastal Waters of the Red Sea State, Republic of the Sudan.
<b>Justification for the project</b>	To develop the knowledge base of the marine fisheries sectors in order to develop a marine fisheries strategy plan in the Red Sea State at the Republic of the Sudan.
<b>Overall objectives</b>	Developing both artisanal and semi-industrial fisheries for job creation, food security, poverty alleviation and increased supply of fish to national market – and possibly export of seafood products.
<b>Specific (main) objectives</b>	Supply new and updated information (knowledge) Strengthen capacities Knowledge and know how transfer
<b>Beneficiaries</b>	Marine Fisheries Authority (MFA) at Red Sea State in the Republic of the Sudan. Faculty of Marine Science and Fisheries (FMSF) –the Red Sea State University. Fisheries and Marine Research Station (FMRS). Fishermen of the Red Sea State.
<b>Project partners</b>	Ministry of Agriculture and Animal Resources -Marine Fisheries Authority UNIDO Royall Norwegian Embassy at Khartoum – Center for Development Cooperation in Fisheries (CDCF) at the Institute of Marine Research (IMR).
<b>Duration of the project</b>	The project is planned as a two year - 20 months (2012 – 2013), with option of extension for one additional year 2014.



<b>Time frame of the project</b>	Starting date: June 2012 Closing date: 31/ December/ 2013 <sup>2</sup> First Survey: 1 to 30 November 2013 Second survey: 27 <sup>th</sup> May to 26 <sup>th</sup> June2013 Third survey: 25 <sup>th</sup> Nov. to 4 <sup>th</sup> December
<b>Donors</b>	Royal Norwegian Embassy at Khartoum UNIDO at Republic of the Sudan
<b>Project cost and co-finance:</b>	Norwegian contribution fund = €1.053.357 UNIDO contribution fund = <u>€208.893</u> Total budget = <b>€1.262.250</b>

## 4.2 Brief description

UNIDO was requested to provide technical assistance for the preparation of the fisheries sector development strategy in the Red Sea State (RSS) of Sudan. The availability of information related to the landing sites and fish and shellfish stocks, as well as on fisheries status is insufficient or poor for developing the concept of a sustainable development strategy for the marine fisheries in the Republic of the Sudan.

### 4.2.1 Surveys of Renewable Marine Resources in the RSS – The baseline project

The Royal Norwegian Embassy in Khartoum responded to Sudan's request by offering supporting funds for a project to carry out Surveys of Renewable Marine Resources in the RSS. This was to be done by implementing two comprehensive trap and one trawl survey of renewable resources (fish and shellfish stocks) from November to May 2013 in the RSS.

The project is implemented as a joint CDCF/IMR – UNIDO project, with all the logistics, administrative support and mobilization of co-finance provided by UNIDO country's office and Port Sudan office. This project is considered as complementary to the CIDA-UNIDO project on "Recovery of coastal Livelihood in the RSS".

The project was planned as a two year project 2012 -2013, with the option of extension for one additional year (2014), and this in order to carry out two identical and comprehensive trap surveys and one trawl survey at different times of the year (summer –winter), which is the spawning period for many fish species. The duration of trap and trawl surveys was planned at 30 days for each trap survey and 5 days for the trawling survey within a restricted area (40X40 km) designed for demersal trawling in the Southern part of the Republic of the Sudan's EEZ (The beach seine to be supplied by MFA).

15 national counterparts from Sudanese targeted institutions (MFA – FMSF – FMRS) would participate in each survey, and the crew would be changed every 10 days

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<sup>2</sup> With the approval of the additional winter trap survey, the closing date is end of June 2014

when the vessel (The Don Questo) would go to Port Sudan (for supplying and unloading of fish samples), and this allow training of a higher number of national counterparts. One local fishermen acting as a guide in the area, as well as to learn how to use the traps would also be on board. The survey was designed to operate in shallow coastal waters with fragile and vulnerable coral reefs and to be carried out with minimal environmental impact, following a predetermined track from the north to the south of the EEZ.

As result of the feasibility study carried out by the CDCF/IMR and UNIDO in February 2012, it was agreed that all the process of the project implementation and management should be supported by UNIDO, whilst the CDCF/IMR was responsible for substantive expertise.

The main challenge that appeared during the feasibility study was related to the identification of suitable vessels for the trap survey and the trawling survey. The vessel for the trap survey requiring low draught, technical infrastructure (winch – crane to lift traps- hydraulic platform to lift the MFA boat), accommodation for up to 19 participants, etc., and the vessel's skipper having experience in navigating in the southern parts of the RSS Coast (conditional requirement). During the feasibility study, all potential suitable live aboard vessels operating out of Port Sudan were also inspected (Baron Noir – Don Questo – Felicidad – Sherezade). The M/S Don Questo was identified as the only vessel corresponding to the requirement for the trap surveys and was chartered by UNIDO for the three trap surveys (subcontract).

However, since the competitive international tender carried out by UNIDO could not identify a suitable vessel for the implementation of the trawl survey and given that trawling activities have been suspended in the Extended Economic Zone of the Republic of the Sudan until further notice, output 2 of the project document cannot be implemented.

#### **4.2.2 Complementary project**

In a *Note Verbale* dated 15 January 2013 the Ministry of Agriculture and Animal Resources requested further support from the Royal Norwegian Embassy towards the development of a sustainable marine fishery and mandated UNIDO and the Norwegian Institute for Marine Research (IMR) to discuss concrete possibilities with the Royal Norwegian Embassy.

In subsequent discussions it was agreed with the Ministry and the Embassy that funds earmarked for the implementation of the trawl survey should be used to contribute towards the cost of the implementation of one additional trap survey in November 2013. Furthermore the Royal Norwegian Embassy agreed to provide NOK 2,250,520 (€ 262,810) as incremental funding required for the implementation of this additional trap survey.

The development of this complementary project is based on the results of the first two trap surveys implemented under the baseline project surveys of renewable marine resources in the RSS, in November 2012 and May 2013.

The budget of this complementary project includes unutilized funds from the implementation of the trawling survey, complemented by incremental funding from the Norwegian Embassy that agreed to provide €262.810 for the implementation of this additional trap survey in November 2013.

This additional survey does not introduce any new activities; it is a repetition of activities as they were implemented in the baseline surveys.

The necessity of this complementary survey was to provide incremental information on fish stocks and increase capacity building to the counterparts. This additional survey would allow for the collection of additional data that would contribute to improve the knowledge base on marine fish stocks. This additional survey targeted coral fish species, which constitute the most important fish stocks for the artisanal fisheries in the RSS.

### **Project Purpose**

To build the knowledge base for the marine fisheries sector in order to develop a marine fisheries strategy plan in the Red Sea State of the Republic of the Sudan.

### **Project objectives**

#### A) Supply New and updated Information (knowledge) on the following:

1. Distribution and basic measurements (size, sex, maturity, etc.) of coastal marine fish resources along the Sudanese coast.
2. Density and catch rates of the different fish species.
3. Assessment of total biomass of selected fish species to be useful for the management of fish resources.
4. Environmental, habitat and oceanographic condition along the coast (including data on elasmobranchs and shellfish).

#### B) Strengthen capacities:

1. Increasing scientific capacity for planning and running surveys
2. Increasing scientific capacity for data processing and scientific assessment of stock status.
3. Increasing capacity on how to use and construct new scientific sampling gear (traps, long-lines etc).
4. Increase capacity in use of instrumentation (echo-sounder, GPS, CTD, and ADCP).

#### C) Knowledge and know how transfer:

1. Transfer of knowledge of coastal fish resources distribution and biology to fishermen so that they can carry out their fishing on a better knowledge base.
2. Transfer knowledge of new gear so that the fishermen have the possibility of using more effective gear and fishing methods.
3. Use the increased knowledge as a basis for the future strategic plans for the fishing sector, ICZM and other marine management activities.
4. Potential for semi-industrial fisheries.

## **Expected outcome**

Overall, the expected outcome for the complementary project is the provision of incremental data, contributing to a better knowledge base of the living marine resources (fish and shell fish stocks) in the coastal (shallower than 200 m) zone of the Republic of the Sudan's EEZ. In particular this will include:

- Contributing additional information to the development of a sustainable fisheries strategy for the Republic of the Sudan.
- Provision of a better knowledge base of the living organism of marine resources in the coastal zone (shallower than 200m) of the EEZ of the Republic of the Sudan.
- Provision of a better knowledge basis for planning fishing activities for the individual fishermen.
- Contributing to ensuring sustainable management of the fishing activities on a regional knowledge based scale.
- Contributing to the modernization and development of artisanal fisheries and semi-industrial fisheries.
- Contributing towards ensuring food security at national and regional level.
- Better understanding of the potential for of economic development.

In addition, by repeating the implementation of a winter trap survey, the project will facilitate the development of a time series on fish stocks.

## • **Outputs**

### Output 1: One winter trap survey (30 days)

This includes the following activities:

- An adaptive strata system will be developed to cover different habitats - depth stratified - and areas of social value- high biodiversity-
- Water depth, SST, currents and weather condition will be monitored continuously through use of echo sounder and weather station linked to a PC.
- At predetermined position along the track the vessel will stop and carry out detailed scientific investigation; temperature and salinity will be measured (from surface to bottom using CTD).
- Baited traps to be set on the bottom to attract fish, at each location 10 to 15 traps will be set one to two times per day
- Vertical long lines in conjunction with the traps in the areas off the reefs.
- Floating gill net use to get samples of small pelagic species in the same areas off reefs.
- Two CDCF/IMR scientist and technician will take part for training of the national counterparts in measuring the catches and analyzing the results

#### Output 2: One winter trawling survey (5 days)<sup>3</sup>

This includes the following activities:

- Biological sampling
- Video analysis
- Data handling
- Scientific samples
- Laboratory analysis (on land)
- Stomach content analysis
- Otolith analysis
- Contaminants
- Genetic analysis
- Reporting and outreach

#### Output 3: One summer trap survey (30 days)

This includes the following activities:

- The summer survey is required to collect data on fish stock during the spawning period to gain more knowledge of spawning aggregations.

#### Output 4: Database of survey data developed, results analyzed and recommendation for the sustainable use of marine resources made

This includes the following activities:

- Caught fish counted
- Weight measured
- Stomach content and tissues sample will be taken for future lab analysis on land.

#### Output 5: One additional winter trap survey (30 days)

This includes the following activities:

- An adaptive strata system will be developed to cover different habitats - depth stratified - and areas of social value- high biodiversity-
- Water depth, SST, currents and weather condition will be monitored continuously through use of echo sounder and weather station linked to a PC.

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<sup>3</sup> Due to legal restrictions and non-availability of commercial trawling vessels that can be chartered, the implementation of the trawl survey has been postponed until commercial trawling activities can resume in the EEZ of the Republic of the Sudan.

- At predetermined position along the track the vessel will stop and carry out detailed scientific investigation; temperature and salinity will be measured (from surface to bottom using CTD).
- Baited traps will be set on the bottom to attract fish, at each location 10 to 15 traps will be set one to two times per day
- Vertical long lines in conjunction of the traps in the areas off the reefs.
- Floating gill net use to get samples of small pelagic species in the same areas off reefs.
- Two CDCF/IMR scientist and technician will take part for training of the national counterparts in measuring the catches and analyzing the results

#### Output 6: External Evaluation

The purpose of the terminal evaluation is to enable the Government of the Republic of the Sudan, the Norwegian Government (the donor), counterparts, UNIDO and other stakeholders to verify prospects for development impact and sustainability; enhance project relevance, effectiveness, efficiency and sustainability; and, draw lessons of wider applicability.

### **4.3 Project implementation**

As result of the limited institutional capacity of the MFA and the logistic challenge to implement these surveys in the RSS, the government of Sudan requested the Center for Development Cooperation in Fisheries (CDCF) at the Norwegian Institute of Marine research (IMR) and UNIDO to join efforts to support the MFA in the implementation of the surveys.

- Project Implementation Unit

The Project implementation unit, headed by a project manager from UNIDO, is responsible for the coordination and facilitation of the implementation of the project, including supervision and direction of the national project coordinator and, providing logistic, administrative management and financial support, as well as reviewing relevant reports, drafting recommendations and minutes of meetings.

Although the implementation of this project is a joint in venture between UNIDO and the IMR, the project benefits from the logistical and administrative support of UNIDO offices in Khartoum and Port Sudan, including support for the mobilization of co-finance for additional equipment required for the surveys.

The Ministry of Agriculture, Animal Resources, and Fisheries is the coordinating agency on behalf of the Government of Sudan. The CDCF/IMR experts are responsible from the entire training program for the main counterparts (MFA staff, Marine and Fisheries Research Station and Faculty of the Marine Science and Fisheries - University of Red Sea State).

A Technical Committee (TC) is in place since early 2012, with members nominated by the Minister of Agriculture, Animal Resources, and Fisheries of the RSS, to serve as national apex body for management of all aspects of the mapping of marine resources in the Red Sea coast, and coordinate Sudanese input into the project.

The TC, supported by the UNIDO project implementation unit, is responsible for:

- Overall coordination of project implementation and follow up (including reporting);
- Provision of guidance;
- Survey site selection;
- Coordination of missions;
- Nomination of participants for missions.

The Technical Committee members include:

- DG Ministry of Agriculture (Head of TC)
- Director of Marine Fisheries
- Director of Marine and Fisheries Research Station
- Dean of Faculty of Marine Science and Fisheries
- MFA staff
- State coordinator of UNIDO projects - Director of industry department.

#### 4.4 Positioning of the UNIDO project

UNIDO's Water Management Unit has ample experience in this field and is successfully implementing two projects in the world's significant large marine ecosystems. Therefore UNIDO could establish a leading role in the development of the fisheries potential in the Republic of the Sudan, through provision of technical assistance to this project. Based on the Standard Basic Cooperation Agreement between the Government of the Republic of the Sudan and UNIDO, signed in 1998, within the scope of the development and integration, Sudan requested UNIDO to help strengthen the fisheries sector through development of a fisheries strategy in order to move from a predominantly artisanal model, towards semi-industrial fisheries.

The project is synergistic and complementary to the Canadian International Development Agency (CIDA<sup>4</sup>) funded UNIDO project (TFSUD09002 Recovery of Coastal Livelihoods in the Red Sea State: the Modernization of Artisanal fisheries and the Creation of Market Opportunities) and is aligned with UNIDO, CIDA and Norway approaches. These aim towards modernization of artisanal fisheries, creation of new market and job opportunity, by building landing site, ice supply, transport of products, boat building and training. This project does not cover any activities for the fisheries stock assessment. Therefore the complementary project for providing information base of marine fisheries resources is needed.

The project is fully aligned with UNDAF "outcome 3 livelihood and productive sector" which aims at reducing poverty among vulnerable groups, and increased equitable economic growth through improvements in livelihoods.

The project is also fully aligned with the five-year plan of the Government of Sudan, which promotes sustainable economic development through private sector growth, supporting key infrastructure and agriculture projects and building a knowledge – based economy.

Furthermore, the project is considered as a pillar for knowledge based modernization of the artisanal marine fisheries as well as for the development of a sustainable semi-

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<sup>4</sup> CIDA is currently known (2014) as Department of Foreign Affairs, Trade and Development (DFATD)

industrial fishery sector. This point is aligned with the strategy of the Norwegian Embassy in Sudan to support economic diversification, which has become one of the major challenges for the Sudan government, as a result of the severe economic situation brought on by the independence of the Republic of South Sudan, in July 2011.

#### **4.5 Counterpart organization(s)**

The Center for Development Cooperation in Fisheries (CDCF) at the Norwegian Institute of Marine Research (IMR) is renowned worldwide and operates globally in the fields of fishery research and management. Norway has a long maritime experience and history, which has resulted in technologically advanced fishing and aquaculture industries. All these factors make CDCF/IMR a powerful partner in the sustainable management of living aquatic resources.



## 5 Project assessment

### 5.1 Design and Relevance

**Relevance** was assessed by the Evaluation Team (ET) at two distinct but interrelated levels: firstly, with regard to national development and environmental agendas, countries commitment and regional and international agreements; secondly to target groups and UNIDO and the donor. The overall relevance of the Project was assessed by the ET as being **highly satisfactory**, as detailed below.

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- ***Was the project's design adequate to address the problems at hand? Was the project formulated with the participation of national counterparts and/or target beneficiaries? Was a participatory project identification process applied and was it instrumental in selecting problem areas and national counterparts?***

The project concept was elaborated with the key stakeholders, and the ET was able to determine that the project was developed following a participatory approach aimed at creating a cooperative and inclusive process. The design is assessed as contributing to increase the access to quality information as regards the state of marine resources, to strengthen the capacities at the local level, and to transfer knowledge and know how in order to achieve the desired objectives.

There is also evidence on the coherence and complementarities of the project of Surveys of Renewable Marine Resources in the Red Sea State and the project of CIDA/UNIDO TFSUD09002 "Recovery of Coastal Livelihoods in the Red Sea State: the Modernization of Artisanal fisheries and the Creation of Market Opportunities".

This said the ET identified what would appear to be a minor design flaw concerning production of information materials, as assistance to fishermen for the transfer of knowledge to their peers is not contemplated in the project. Indeed, the project design does not include references to orientation or awareness raising activities/workshops for the dissemination of information about the objectives, importance and eventual results of the project for local communities. In support of this, the ET also noted that production of publication materials, before or within the implementation period of the project (pamphlets, booklets, posters, etc.) was not contemplated either (with the exception of stickers with the name of the project in both Arabic and English).

This would have facilitated the dissemination of knowledge and eventual results and enabled stakeholders to understand the benefits to be gained from this project.

Considering the above, and given that these flaws do not jeopardize the outputs, outcomes and eventual impacts, the Project design is considered as adequate to address the problems at hand.

- ***Does the project have a clear thematically focused development objective, the attainment of which can be determined by a set of verifiable indicators?***

It is estimated that the long-term development goals (Modernization of artisanal fisheries and the development of a semi-industrial fishery in the RSS), and the project objective (To provide incremental and updated information on renewable marine resource (fish and shellfish stocks) in the Republic of the Sudan's coastal waters, to strengthen capacities and to build the opportunities for the transfer of knowledge and know-how) are thematically focused development objectives.

These objectives are oriented towards the elimination of the problems impeding the modernization of the Sudanese artisanal marine fisheries as well as the development

of a sustainable semi-industrial fishery, through the joint development of mechanisms and tools and through reforms and investments. These are required to achieve significant progress in developing both artisanal and semi-industrial fisheries for job creation, food security, poverty alleviation and increased supply of fish to the national market – and possibly also for the export of some seafood products.

The selected indicators (tons of fish caught in sustainable coastal and marine fisheries and, contribution of sustainable coastal and marine fisheries to GDP) are specific, measurable, achievable, relevant, and time framed. For this reason it is considered that they are suitable to determine the attainment of the Objective.

- ***Relevance to national development and environmental agendas, recipient country commitment, and regional and international agreements***

Realizing the above mentioned potential (objectives) will contribute to the Republic of the Sudan's Economic Diversification Strategy, launched to compensate for the loss of revenue from oil exports resulting from the establishment of the Republic of South Sudan as an independent state<sup>5</sup>.

Although fisheries are one of the components of the 2012 – 2016 Industrial Modernization Programme of the Republic of the Sudan (national and state level), at this stage it is generally considered that fisheries are not properly understood, not properly exploited or structured, are artisanal and not integrated into a national policy of development.

The fisheries institutions at federal and state level recognize the relevance of the project in the context of the development of a national fisheries strategy. The project aims to improve capabilities through development of a fisheries policy and strategy, capacity building and development of artisanal and semi-industrial fisheries sectors on the sustainable use of marine resources.

Achieving rational and sustainable management of the marine fisheries resources is likely through realization of the projects objectives, based on scientific principles that are now in place. Overall, the project is considered to be generally in line with regional and international agreements, conventions and commitments on marine fisheries management.

- ***Relevance to target groups: relevance of the project's objectives, outcomes and outputs to the different target groups of the interventions (e.g. companies, civil society, beneficiaries of capacity building and training, etc.)***

The project is fully in line with the Government of National Unity's five-year plan to promote sustainable economic development by encouraging a competitive private sector, supporting key infrastructure and agriculture projects, and building a knowledge-based economy.

The objectives and purpose of the project are considered as highly relevant, as findings and observations from the surveys have contributed to the development of

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<sup>5</sup> Project Document

an understanding of fishery biology and database processing. The concept of sustainable management and use of marine fisheries resources was also developed and is currently being adopted. As well, modern fishing techniques were not being used in the RSS, and it is considered that these new skills have benefitted the stakeholders<sup>6</sup>.

The project is focused on strengthening fisheries institutions and providing a knowledge base on marine resources for developing the marine fisheries strategy in RSS. Although the project does not directly affect poverty alleviation, the transfer of knowledge and supportive information within the local fishermen communities will contribute and support the development of the artisanal sector and thereby will affect the livelihood of local communities.

- ***Relevance to the Donor and UNIDO: In retrospect, were the project's outcomes consistent with the strategies of the Norwegian Embassy for development cooperation with the Republic of the Sudan? Were they in line with the UNIDO mandate, objectives and outcomes defined in the Programme & Budget and core competencies?***

By providing the knowledge base for the modernization of the artisanal marine fisheries and for the development of a sustainable semi-industrial marine fishery sector, the project is fully aligned with the strategy of the Norwegian Embassy in Khartoum to support economic diversification (through improved livelihoods, ensuring food security and capacity building of relevant institutions), which has become one of the major challenges for Republic of the Sudan as a response to the severe economic effects of the Republic of South Sudan's secession.

The project will contribute to achieve the MDG 1: Eradicate extreme poverty and hunger and MDG 7: Ensure environmental sustainability. As well, the project is also fully in line with the UNDAF Outcome 3 "Livelihoods and Productive Sectors" which aims at reducing poverty, especially among vulnerable groups, and increased equitable economic growth through improvements in livelihoods, decent employment opportunities, food security, sustainable natural resource management, and self-reliance.

The project fits within the mandate of UNIDO's international waters projects related to industrial pollution control; sound water environment, cleaner production, controlling water pollution from land based activities mainly from domestic and industrial sources, and integrated ecosystem-wide management of transboundary waters especially large marine ecosystems and river basins. The project also contributes to UNIDO's water portfolio in terms of strengthening of national and regional institutional capacities as well as of policy and legal frameworks, including harmonization of national laws, and introduction of sound environmental management practices and technologies; restoration of the global Large Marine Ecosystems; industrial fisheries

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<sup>6</sup> Interview data

and the reduction of the gap between artisanal and industrial fisheries; sustainable coastal tourism development to mitigate degradation of the coastal areas and sensitive ecosystems and conserve threaten biodiversity.

In addition, the project is aligned with the priorities of the 2012 – 2016 Industrial Modernization Programme of the Republic of the Sudan.

Finally it is important to note that no other donor or aid agency is supporting the assessment of renewable marine resources in the Red Sea State, Republic of the Sudan.

- ***Was the project formulated based on the logical framework approach?***

Yes, the project is formulated based on the logical framework approach. The narrative synthesis is consistent; the products are necessary to achieve the expected results. The baselines and targets are clear; the indicators are suitable; the verification sources are accessible, and the risks and assumptions identified are external critical factors that are beyond the control of the project.

## 5.2 Effectiveness

The **effectiveness** of the project was assessed against the outcomes, as stated in the project document, and effectiveness has been determined by the ET to be **Satisfactory**, as detailed below.

- ***What outputs and outcomes has the project achieved so far (both qualitative and quantitative results)? Has the project generated any results that could lead to changes of the assisted institutions? Have there been any unplanned effects?***

The effectiveness of the project was assessed against the expected outcomes, as stated in the initial project document and the additional project document<sup>7</sup> and the 6 project outputs are listed and succinctly reviewed below (4 in the baseline project, 2 under the additional project). The evaluation team was able to document significant qualitative and quantitative results for all outcomes.

Overall, the ET was able to determine that the effectiveness of the project for local communities involved in the project was considered to be high with fishermen describing the training in particular as highly satisfactory “New knowledge and information on equipment and techniques are highly valuable” and, they “would participate even if no incentive was offered”. Although this opinion was generalized, it must be pointed out that the number of fishermen involved per mission is low, as compared to total number of fishermen in the state.

The ET was also able to gather evidence as regards the vessel selected as a “floating base camp” for the surveys (The Don Questo). This was considered as a very important element and large part of the success of the projects different off-ground components (surveys, capacity building, etc.). Safety, the fact that it provided a “central” platform, that it was fully equipped to provide support functions (laboratory, storage of samples), meetings, training, entry of data, etc., were all

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<sup>7</sup> Project Documents - SAP ID 120174 (June 2012, and June 2013)

assessed as highly satisfactory. The captive audience effect facilitated capacity building and interactions and participants considered the training imparted as highly satisfactory stating that they would participate “even if no incentive were offered” (per diem). However, the effectiveness regarding the operation and maintenance by the MFA was generally considered to be poor as difficulties with maintenances of the MFA boat were evidenced (problem with engine during the last survey delayed the mission for two days).

The effectiveness of institutional strengthening, as evidenced by the two mission reports, and direct observation by the ET during the third survey demonstrated that marine fisheries institutions were effectively engaged. More than 45 counterparts were involved in the training program and, transfer of knowledge occurred between the participants.

Although this point is beyond the scope of the evaluation, it appeared that as compared to previous surveys, the traps used for the capture of fish were not as effective at the beginning of the 3<sup>rd</sup> mission, as they had been in past. At this stage, the ET does not have access to the mission report and it is therefore not possible to confirm if this trend was continued.

**Output 1:** Training during one winter trap survey has been completed (Highly Satisfactory).

The activities planned were carried out. Baseline information was available, databases were developed, trainees were trained, and expected activities were completed.

**Output 2:** Training during a winter trawl survey (NA, activity was replaced by an additional summer survey – see Output 6)

**Output 3:** Training during a summer trap survey has been completed (Highly Satisfactory).

All the activities planned were implemented. Results of meetings carried out by the MFA, RSSFRI, URSSFMS, UNIDO, and the IMR during the survey were integrated into a draft for the continuation of the project (5 year perspective). Short evening seminars were held during the survey cruise to discuss key topics<sup>8</sup>.

The main target species for artisanal fishermen in Sudan (*Plectropomus pessuliferus* "Najel" and *Plectropomus areolatus* "Silimani") are heavily exploited and result in high market prices. (Study carried out in August, 2009 to November, 2010 in two locations Dounganb Bay and Mukawwer to the North and Suakin to the South of Port Sudan). This study indicated that these two species would benefit from more effective management and conservation.

**Output 4:** Training for the development of survey database, analysis of results and the development of recommendations for the sustainable use of renewable marine resources carried out. This has been completed in part and the recommendations for sustainable use are in preparation (Satisfactory).

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<sup>8</sup> Survey Report 2013

Survey data and fish samples were analyzed; common vision for the development of sustainable use strategies for coastal marine resources was developed.

**Output 5** (Output 1 of the additional project): 20 national experts trained in trap survey techniques (preparation and implementation) and in at sea/on board analysis during an additional 30 days winter trap survey (November 2013). This has been completed (Highly Satisfactory).

**Output 6** (Output 2 of the additional project): Implementation of an independent evaluation has been completed.

- ***Are the project outcomes commensurate with the original or modified project objectives? If the original or modified expected results are merely outputs/inputs, the evaluators should assess if there were any real outcomes of the project and, if there were, determine whether these are commensurate with realistic expectations from such projects.***

The evaluation evidenced that the project as it is being developed and implemented is fully aligned with the original project objectives. In addition, the project is considered to be on schedule as regards delivery of the different outputs. Its efficiency is therefore rated as highly satisfactory. This would tend to indicate that it is very likely that on a purely results based management approach, the intended final outputs will be delivered in support of achievement of the outcomes.

- ***To what extent have the expected outputs and outcomes been achieved? How do the stakeholders perceive their quality? Were targeted beneficiary groups actually reached?***

The majority of expected outputs has or is well on target to being achieved, with only delay in the delivery of the description of the status of renewable marine resources and recommendations for sustainable use.

After the additional project (survey) is completed, a survey report will be prepared (expected end of February 2014). In addition, after completion of the surveys and completion of the analysis of the fish samples collected during the survey a final report describing the status of the renewable marine resources in the coastal waters of the RSS, which should include the above mentioned recommendations for their sustainable use will be prepared.

This said, the ET considers it highly likely that with the support from the MFA and UNIDO, that expected outputs will be achieved.

The Project has had considerable impacts on training. The ET was informed and observed that training activities have taken/take place on board the Don Questo and that 45 participants from different institutes (MFA – FMSF – FMRS (FRI) were trained in biological measurements, planning and running surveys, data processing and scientific assessment of stock status, use and construct new scientific sampling gear (traps, long-lines etc) and use of instrumentation (echo-sounder, GPS, CTD, and ADCP). The trainees were highly satisfied and emphasized that this training program developed their capacity in different aspects.

During the field visits the ET was able to document extensive support for the project and it was clear that there is a very favorable opinion of the project quality and achievements, in particular from the perspective of the project beneficiaries (local communities) and especially for stakeholders.

- **Identify the potential longer-term impacts or at least indicate the steps taken to assess these (see also below “monitoring of long term changes”). Wherever possible, evaluators should indicate how findings on impacts would be reported to the Norwegian Embassy in future.**

Potential longer-term impacts of the Project are considered fully aligned with the expectations laid out in the original project document, as previously mentioned. The steps taken to assess these are in part picked up in the present final review, and are continuously being tracked by the project’s well-established Technical Committee. This will provide a valuable source of data for ulterior evaluations where these longer-term impacts will be easier to assess.

- **Catalytic or replication effects: the evaluation will describe any catalytic or replication effect of the project. If no effects are identified, the evaluation will describe the catalytic or replication actions that the project carried out. No ratings are requested for the project’s catalytic role.**

The ET considers that the probability of these activities being replicated is high as it received information pointing to the fact that trainees would organize training sessions for colleagues when returning from the mission.

### 5.3 Efficiency

The **efficiency** of the project is assessed by the ET as **highly satisfactory**, with project outputs delivered on target. These have in addition been implemented in a cost-effective and efficient manner. Stakeholders consider this also to be very high.

- **Was the project cost effective? Was the project the least cost option? Was project implementation delayed, and, if it was, did that affect cost effectiveness**

To date, the project has made considerable progress, at a reasonable cost, towards the description of resource base in a database. However, the recommendations for the sustainable use of renewable marine resources were still on going at the time of preparation of this report.

The project has committed/spent all of the budgeted resources on programmed activities as shown in the table below:

**Table 1 - Overview of expenditures**

	€
<b>2012</b>	<b>€</b>
Output 1: One winter trap survey (30 days at sea) carried out	288,639.42
Output 2: One winter trawl survey (5 days at sea) carried out	-
subtotal 2012	288,639.42
UNIDO support cost contribution	37,523.12
<b>total 2012</b>	<b>326,162.54</b>
<b>2013</b>	<b>€</b>
Output 3: one summer trap survey (30 days) at sea carried out	269,496.19
Output 4: Database of survey data developed, results analyzed and	30,606.94
Output 5: one additional winter trap survey (30 days) at sea carried out	299,172.74
Output 6. external evaluation	26,260.00
subtotal 2013	625,535.87
UNIDO support cost contribution	81,319.66
<b>total 2013</b>	<b>706,855.54</b>
<b>grand total</b>	<b>1,053,358.07</b>

Source: Terms of reference for the Final Evaluation

	€
<b>2014</b>	<b>€</b>
Output 4: National counterparts trained (30 days at sea) carried out	445165.33
Output 5: Implementation of independent external evaluation	17081.01
Subtotal 2014	<b>462246.34</b>
13% UNIDO support cost contribution	60092.02
<b>Total 2014</b>	<b>522338.36</b>

Source: UNIDO, Progress Report No 3

- **Have the donor, UNIDO and Government/counterpart inputs been provided as planned and were adequate to meet requirements? Was the quality of UNIDO inputs and services as planned and timely?**

The ET was not informed of any shortcomings or delays as regards provision of inputs from Norway nor from UNIDO. Contributions are considered to have been in a timely manner and the ET considers that project efficiency through cost-effective delivery has been achieved.

#### 5.4 Sustainability

The medium term **sustainability** of project results depends on several factors including timeliness and soundness of the recommendations for sustainable use being prepared by the project, the political will of the Government to integrate these into federal unifying legislation and policies for the fisheries sector (expected to be approved in 2014), and the continued engagement of donors. The ET considers the repeated indications received from various levels of government (federal and State) regarding the countries commitment to allocating in-kind resources to future phases of the project as a positive indicator, contributing to the assessment of the sustainability of the Project as being **moderately likely**.



At the level of the country it is also apparent through the interviews and review of documentation that hard data based on a long time series (5 years minimum) are required to not only to validate the potential of the available resources, but also to ensure the continued engagement of stakeholders. Awareness raising efforts and transfer of knowledge is also unlikely without assistance, and these need to be supported in order to facilitate income generation and food security, as well as protection of the resources.

Policies, legislation and management action should focus on the long-term conservation and sustainable use of marine resources. Conservation and management measures whether at the state and federal level should be designed to ensure the long-term sustainability of marine resources and to maintain quality, diversity and availability of marine resources in sufficient quantity for present and future generation.

Training has contributed to environmental sustainability by developing the ability to carry out research and provide advice on fisheries management to reduce the impacts on marine environment and to ensure sustainability.

- ***Financial, Socio-political, Institutional Framework and Governance, and Environmental Risks***

The project enjoys the active support of Ministries at State level, and to a lesser degree, at the federal level. The ET noted that this is due to the fact that communication lines initially established at the Federal level were never maintained as the project focused on the State level counterparts in the RSS.

Through its country office UNIDO has contributed to keep decision makers at State level well informed on the project's progress, which would be a positive factor indicating that there is no or minimal internal political risk.

The continuity of the project will depend largely on the continued stability of the Republic of the Sudan. Should the tensions between the Republic of the Sudan and the Republic of South Sudan escalate and result in open hostilities however, it will have to be assessed whether the security situation in the Red Sea State allows for the implementation of a follow-up project.

Environmental risks should be considered if the project goes into a new phase, as, for example, the current characteristics of size and weight of the pilot trap used may cause damage to the coral reefs and the diversity of fish communities is closely related to the variety and health of the habitat. Modification of the traps with consideration of the indigenous knowledge is needed in a new designed trap.

Policies, legislation and management action should focus on the long-term conservation and sustainable use of marine resources. Conservation and management measures whether at the state and federal level should be designed to ensure the longterm sustainability of marine resources and to maintain quality, diversity and availability of marine resources in sufficient quantity for present and future generations.

Training has contributed to environmental sustainability by developing the ability to carry out research and provide advice on fisheries management to reduce the impacts on marine environment and to ensure sustainability.

## 5.5 Assessment of M&E systems and Project Management

- ***M&E design and implementation***

The ET was provided with information allowing it to verify that in line with UNIDO Technical Cooperation Guidelines for projects with a total budget beyond one million Euros the impacts and achievements of the baseline project and the complementary project are to be determined through an independent evaluation<sup>9</sup>.

- ***Budgeting and Funding***

The ET noted no issues as regards budgeting and/or funding for M&E systems and project management during the evaluation.

- ***Project Management***

The ET was provided with evidence indicating that the UNIDO country office and Port Sudan office have adequate capacity to manage and implement the project, report and achieve the expected output of the project.

## 5.6 Assessment of processes affecting attainment of project results

- ***Preparation and readiness. Were the project's objectives and components clear, practicable and feasible within its time frame? Were counterpart resources (funding, staff, facilities), and adequate project management arrangements in place at project entry?***

The ET was not able to document any shortcomings as regards the above. The project objectives are assessed as clear, practicable and feasible within the time frame. No information regarding untimely availability of counterpart resources, nor of inadequacy of project management arrangements, were documented.

The ET was however able to document positive remarks on all of the above citing for example the importance of the projects and their objectives, the support and funding received, and arrangements to ensure all elements fell into place in a timely manner.

- ***Country ownership/driverness. Was the project concept in line with the sectoral and development priorities and plans of the country—or of participating countries, in the case of multicountry projects?***

Yes, the projects are fully aligned with the development priorities and plans of the country.

There is a high sense of ownership at the State level, and although it is more limited at the Federal level, the ET was able to determine that there is a keen interest in the results of the projects, in particular at this stage during which overarching Federal unifying legislation and policies for the fisheries sector are being drafted by the Federal government, with the assistance of the ACP programme of the EU (expected approval in 2014).

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<sup>9</sup> Project Document – Additional Survey

An indication of the strong sense of ownership of the project is the existence and participation of a Technical Committee (TC) in place since early 2012. This TC coordinates input for the project and is composed of high ranking officials nominated by the Minister of Agriculture, Animal Resources, and Fisheries of RSS. The main responsibilities of this TC are overall to coordinate project implementation and follow up (including reporting), to select the survey sites, coordinate missions and nominate participants.

- ***Stakeholder involvement. Did the project involve the relevant stakeholders through information sharing and consultation? Did the project implement appropriate outreach and public awareness campaigns? Were the relevant vulnerable groups and powerful supporters and opponents of the processes properly involved?***

The ET identified a number of issues related to the selection of participants for the missions. In particular it appeared that the representatives on board were in the majority of cases, “repeat participants” from the three targeted institutes (MFA-FMSF/URSS- FMRS/FRI) – In this sense the ET considers that capacity building opportunities have been missed. Other related sectors at Federal and State level were not engaged on these surveys such as administration of wildlife conservation, tourism department, media, and it is likely that this is due to lack of integration, coordination and communication between different beneficiaries and stakeholders.

As has been mentioned previously, and although a short video was produced, the project did not contemplate the preparation of materials for outreach and public awareness campaigns, which would have likely contributed to a greater awareness, and possibly to a more active desire to participate from better-informed stakeholders.

- ***Financial planning. Did the project have the appropriate financial controls, including reporting and planning, that allowed management to make informed decisions regarding the budget and allowed for timely flow of funds? Was there due diligence in the management of funds and financial audits? Did promised co-financing materialize?***

Yes. UNIDO has reported to the Norwegian Embassy in Khartoum in the mid and at the end of calendar years on the utilization of funds and expenditures occurred. The ET was not informed of any deficiencies as regards financial reporting and was informed that counterparts were highly satisfied with the management and timely disbursement of the funds for the seamless implementation of the baseline and additional projects.

Although the ET is not able to verify the following at this stage, it is expected that UNIDO will, at the most 4 months after operational completion of the project prepare a final financial report.

- ***UNIDO supervision and backstopping. Did UNIDO staff identify problems in a timely fashion and accurately estimate their seriousness? Did UNIDO staff provide quality support and advice to the project, approve modifications in time, and restructure the project when needed? Did***

**UNIDO provide the right staffing levels, continuity, skill mix, and frequency of field visits for the project?**

The ET received ample evidence to document that the project had received quality and timely support from UNIDO. In addition, the relationship between the recipient, the Norwegian Embassy and UNIDO was described as “very strong” and the approach as “focusing on achieving the objectives of the project”.

However, the ET did receive comments regarding the fact that there appeared to be no feedback mechanisms between the Donor/UNIDO and Federal Ministry, as well as between the State/Federal governments.

- **Co-financing and project outcomes and sustainability. If there was a difference in the level of expected co-financing and the co-financing actually realized, what were the reasons for the variance? Did the extent of materialization of co-financing affect project outcomes and/or sustainability, and, if so, in what ways and through what causal linkages?**

The ET was not informed of any variance in the level of co-financing. The materialization of this co-finance however was described as indispensable for the realization of the projects as the country does not have the institutional or logistical capacities to develop and implement this type of activity. Furthermore, it is important to note that no other donor agency is supporting assessments of renewable marine resources in the Red Sea State of the Republic of the Sudan.

- **Delays and project outcomes and sustainability. If there were delays in project implementation and completion, what were the reasons? Did the delays affect project outcomes and/or sustainability, and, if so, in what ways and through what causal linkages?**

The ET is not aware of any delays in the implementation of the projects, per se. A decision to replace one of the outputs of the baseline project (trawling survey) by an additional trap survey was made as a result of policy decisions, and unavailability of an appropriate vessel, however this is not considered to have delayed the project.

Criterion	Evaluator's Summary Comments	ET Rating
<b>Attainment of project objectives and results (overall rating)</b> Sub criteria (below)		S
Effectiveness	Rating of S given as one output not fully realized yet	S
Relevance		HS
Efficiency		HS
<b>Sustainability of Project outcomes (overall rating)</b> Sub criteria (below)		ML
Financial		ML
Socio Political		ML

Criterion	Evaluator's Summary Comments	ET Rating
Institutional framework and governance	Some weaknesses require addressing	ML
Ecological	Project has not yet delivered measurable results	ML
<b>Monitoring and Evaluation (overall rating)</b> Sub criteria (below)	No shortcomings were evidenced by the evaluation	S
M&E Design		S
M&E Plan Implementation (use for adaptive management)		S
Budgeting and Funding for M&E activities		S
<b>UNIDO specific ratings</b>		S
<b>Quality at entry</b>	Shortcomings as regards awareness raising and capacity building in support of stakeholders	S
<b>Implementation approach</b>		HS
<b>UNIDO Supervision and backstopping</b>		HS
<b>Overall Rating</b>		S

#### RATING SCALES:

##### RATINGS OF PROJECT OBJECTIVES AND RESULTS

- Highly Satisfactory (HS): The project had no shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
- Satisfactory (S): The project had minor shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
- Moderately Satisfactory (MS): The project had moderate shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
- Moderately Unsatisfactory (MU): The project had significant shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
- Unsatisfactory (U) The project had major shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
- Highly Unsatisfactory (HU): The project had severe shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.

**Please note:** Relevance and effectiveness will be considered as critical criteria. The overall rating of the project for achievement of objectives and results **may not be higher** than the lowest rating on either of these two criteria. Thus, to have an overall satisfactory rating for outcomes a project must have at least satisfactory ratings on both relevance and effectiveness.

##### RATINGS ON SUSTAINABILITY

Sustainability will be understood as the probability of continued long-term outcomes and impacts after the GEF project funding ends. The evaluation will identify and assess the key conditions or factors that are likely to contribute or undermine the persistence of benefits beyond project completion. Some of these factors might be outcomes of the project, i.e. stronger institutional capacities, legal frameworks, socio-economic incentives /or public awareness. Other factors will include contextual circumstances or developments that are not outcomes of the project but that are relevant to the sustainability of outcomes.

##### Rating system for sustainability sub-criteria

On each of the dimensions of sustainability of the project outcomes will be rated as follows.

- Likely (L): There are no risks affecting this dimension of sustainability.

- Moderately Likely (ML). There are moderate risks that affect this dimension of sustainability.
- Moderately Unlikely (MU): There are significant risks that affect this dimension of sustainability
- Unlikely (U): There are severe risks that affect this dimension of sustainability.

All the risk dimensions of sustainability are critical. Therefore, overall rating for sustainability will not be higher than the rating of the dimension with lowest ratings. For example, if a project has an Unlikely rating in either of the dimensions then its overall rating cannot be higher than Unlikely, regardless of whether higher ratings in other dimensions of sustainability produce a higher average.

## RATINGS OF PROJECT M&E

Monitoring is a continuing function that uses systematic collection of data on specified indicators to provide management and the main stakeholders of an ongoing project with indications of the extent of progress and achievement of objectives and progress in the use of allocated funds. Evaluation is the systematic and objective assessment of an on-going or completed project, its design, implementation and results. Project evaluation may involve the definition of appropriate standards, the examination of performance against those standards, and an assessment of actual and expected results.

The Project monitoring and evaluation system will be rated on 'M&E Design', 'M&E Plan Implementation' and 'Budgeting and Funding for M&E activities' as follows:

- Highly Satisfactory (HS): There were no shortcomings in the project M&E system.
- Satisfactory (S): There were minor shortcomings in the project M&E system.
- Moderately Satisfactory (MS): There were moderate shortcomings in the project M&E system.
- Moderately Unsatisfactory (MU): There were significant shortcomings in the project M&E system.
- Unsatisfactory (U): There were major shortcomings in the project M&E system.
- Highly Unsatisfactory (HU): The Project had no M&E system.

"M&E plan implementation" will be considered a critical parameter for the overall assessment of the M&E system. The overall rating for the M&E systems will not be higher than the rating on "M&E plan implementation."

All other ratings will be on the GEF six-point scale.

HS	= Highly Satisfactory	Excellent
S	= Satisfactory	Well above average
MS	= Moderately Satisfactory	Average
MU	= Moderately Unsatisfactory	Below Average
U	= Unsatisfactory	Poor
HU	= Highly Unsatisfactory	Very poor (Appalling)

## 6 Conclusions and Recommendations

<b>CONCLUSION 1</b>	<b>Maximizing Opportunities</b>
	<b>Recommendation 1</b>
Mechanisms are not in place to ensure data is integrated at the Federal level into ongoing efforts to update and unify legislation for the fisheries sector	State / Federal coordination mechanisms should be strengthened to ensure the effective utilization of the project outputs and the eventual realization of desired impacts
<b>Contributing Conclusions</b>	<b>Supportive Recommendations</b>
There is a risk of missing the opportunity to capitalize on UNIDO investment (funds and expertise) by not actively engaging both with State <u>and</u> Federal governments	Efforts to develop a comprehensive and integrated budget, for modernizing fisheries assessment and management, should be encouraged and supported  Synergies should be explored with other ongoing / soon to be concluded / future activities (i.e. landing sites) as these could provide real time verification of data (catches) providing elements to validate assessment of existing stocks
<b>CONCLUSION 2</b>	<b>Collaborating with Stakeholders</b>
	<b>Recommendation 2</b>
Collaboration and coordination mechanisms between different stakeholders at the State / Federal level are not in place	Communication and cooperative arrangements with and between Federal and State level decision makers and stakeholders should be established
<b>Contributing Conclusions</b>	<b>Supportive Recommendations</b>
Federal and State level Ministries, such as the Wildlife and Tourism, Industry are not involved in the project  Community and grass root level stakeholders are only informally involved in the project, if at all	Efforts should be made to ensure broad participation of decision makers and stakeholders at all levels, from government to fishermen
<b>CONCLUSION 3</b>	<b>Strengthening the Data</b>
	<b>Recommendation 3</b>
Surveys are essential to ensure long-term sustainability of fisheries in the RSS, however a longer time series (minimum of 5 years) is required to provide scientifically sound and statistically meaningful data	Efforts should be pursued to ensure the continuation of the surveys so that solid data (stock assessment) can be obtained and validated

Contributing Conclusions	Supportive Recommendations
<p>Fishing gear developed and deployed (traps) did not consider the indigenous capture knowledge and will not necessarily be replicated (cost, weight)</p> <p>Specific knowledge transfer tools for the fishermen (simple brochure, pamphlets, posters) have not been developed. These would facilitate sharing and replication and contribute to increase economic self reliance</p>	<p>In order to make sustainable progress towards collecting the data, it could be necessary to improve / adapt tools for stock assessment</p> <p>Future iterations of the project should consider the inclusion of a strong public awareness component (workshops, educational material, brochures, media campaigns, etc.)</p>



## 7 Lessons Learned

There is great value in obtaining new and updated information. The biological research that has been conducted by this project has added new and deeper ecological knowledge about the status of the marine resources in the RSS. Assisting stakeholders to gain a better understanding of the biodiversity of marine resources and management needs is key to conserving and developing its potential.

The opportunity that has been given for the fishermen to participate in these surveys is allowing related institutions to achieve goals and collect scientific information from trained fishermen. These include:

- Up to date information on marine resources distribution for commercial purposes
- Increased public awareness knowledge through transfers of knowledge and know how
- Inputs to fisheries management, policies and program activities such as the information about the catches.
- Strengthening of trust and understanding between the fishermen and the government institutions.

## Annex A. List of Interviewees

Name	Institution	Position / Contact
Christian Susan	UNIDO	Project manager
Khaled El Mekwad	UNIDO	UNIDO Representative
Nadia El Dirdiry Omer Karoum	MoA/GA/at Federal level	DG of Fisheries & Aquaria
Esam El Din Abd Elrahim Sorkatie	MoAAR/ state level	DG of MoAAR
Saeed Jumaa Fadua	MFA	DG of MFA
Hassan Mohamed Ali Salih	MFA	Deputy DG Director of human resources
Mohamed Abozianab Wali	MFA	Skipper
Motaz Eltahir Eltaybe	MFA	Staff
Hamid Mohamed Nour	MFA	Staff
Khalid Kujur Adam	MFA	Staff
Adil Khidir Mohamed	MFA	Staff
Motasim Ali Mokhtar	FMRS	Research/Technical staff
Awad Ibrahim Hamza	FMRS	Research/Technical staff
Mohamed Nour Mohamed	FMSF /URSS	
Omar Hassan Bakr	Private sector of local fishermen	Fisherman
Mohamed Ahmed Ousman Waddaier	Privet sector of local fishermen	Fisherman
Mergani Saeed Mahmoud	Marine Security	Navy
Altom Hussien Ahmed	Naional Security	Navy
	M/S Don Questo Vessel	
John Johnson	Norwegian Embassy	Counselor
Ahmed Abbas	Norwegian Embassy	
Mohammed Abdel Hamid Iragi (Ferrari)	MFA	Fisheries Inspector
Motaz Al Tahir	MFA	Inspector, Protection sector – Coastal Management and development

## Annex B. Bibliography

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## Annex C. Terms of Reference



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

### Terms of Reference

**Independent Final Evaluation of the UNIDO Project:**

**Project Number:** TESUD12004

**Surveys of renewable marine resources in the Red Sea State,  
Republic of the Sudan**

September 2013

## I. Project Background and Overview

### 1. Project summary

The Red Sea State (RSS) is the only state in Republic of the Sudan bordering the ocean (Red Sea). RSS has a coastline of 750 km and an Exclusive Economic Zone (EEZ) of 91.600 km<sup>2</sup> including a shelf area of 22.300 km<sup>2</sup>. According to several sources, the RSS has one of the lowest socio-economic indicators in the entire country. Fishery has the potential to contribute to food security as well as the diversification of the economy in the RSS.

Finfish potential is estimated at 10.000 tons/year, while the reported yield amounts to 5.000 tons/year<sup>10</sup>. Along the coast there are a series of pristine coral reefs.

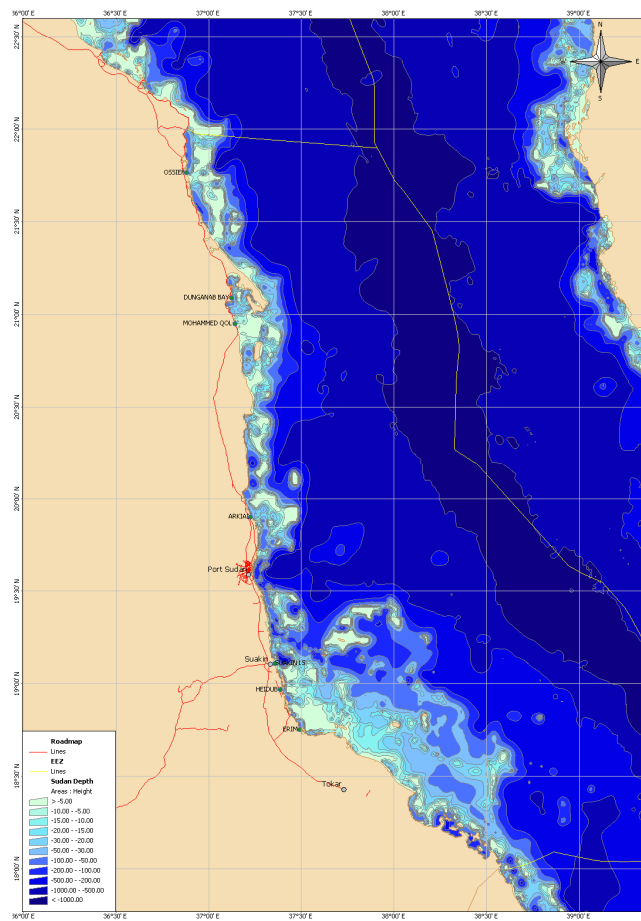


Figure 1 Bathymetric map of the Red Sea State Coast showing most important towns and fishing landing sites

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<sup>10</sup> FAO Fishery Country Profile

The Republic of the Sudan's marine fisheries are still regarded as underdeveloped and there should be a clear potential for developing both artisanal and semi-industrial fisheries for job creation, food security, poverty alleviation and increased supply of fish to the national market – and possibly also export of some seafood products. Realizing this potential will also contribute to Republic of the Sudan's Economic Diversification Strategy which was launched to compensate for the loss of revenue from oil exports resulting from the establishment of South Republic of the Sudan as an independent state. In this context UNIDO was requested to provide technical assistance for the preparation of a fishery sector development strategy. The CIDA funded UNIDO project (TFSUD09002 "recovery of coastal livelihoods in the Red Sea State through the modernization of artisanal fisheries and creation of new market opportunities") is now underway – mainly to build infrastructure (landing sites, ice supply, transport of products, boat building as well as to provide vocational training).

However, as data on fish stocks are scarce and the CIDA funded UNIDO project does not include any stock assessment, there is a clear need for a marine resource assessment (fish and shellfish stocks) – in order to ascertain the resource base, discover underutilized resources and thereby scale the development of the fishery effort to sustainable levels. This basis knowledge would also be valuable in the foreseen development of eco-tourism in Republic of the Sudanese coastal waters. In addition the resource mapping of fish and shellfish stocks will contribute significant information for the Fishery Development Strategy for Republic of the Sudan by providing information on the potential to develop sustainable semi-industrial fisheries in the Red Sea State. This is an initial step that will provide information on the resource base in the coastal zone and thereby aimed mainly at the artisanal fisheries. It will also provide some data relevant for semi-industrial or industrial fisheries, but to fully cover these potentials one needs further surveys covering the deeper waters (deeper than 200m).

The main objectives of this project with a total budget of € 1.262.250 (€ 1.053.357 Norwegian contribution and € 208.893 UNIDO contribution) are to supply new and updated information on renewable marine resources (fish and shellfish stocks) in the Republic of the Sudan's coastal waters, to strengthen capacities of national marine fisheries institutions and to build the opportunities for the transfer of knowledge and know-how. This will form the knowledge base required for the modernisation of the Sudanese artisanal marine fisheries as well as for the development of a sustainable semi-industrial fishery in the Republic of the Sudan. To achieve these objectives three surveys of renewable marine resources will be implemented by the Marine Fisheries Administration with Technical Assistance by UNIDO and the Norwegian Institute for Marine Research. On the occasion of these three surveys counterparts from the Marine Fishery Administration, the Red Sea University as well as from the Red Sea Research Institute will be trained in the preparation and implementation of surveys as well as in the collection and analysis of data on renewable marine resources.

The project was originally planned as a two-year project (2012-2013). This would have allowed training counterparts while carrying out two identical and comprehensive trap surveys at different times of the year to cover both the winter and the summer which is the spawning period for many fish species as well as one trawl survey.

Since the competitive international tender carried out by UNIDO could not identify a suitable vessel for the implementation of the trawl survey and given that trawling activities have been suspended in the Extended Economic Zone of the Republic of the Sudan until further notice, output 2 of the project document cannot be implemented.

In a Note Verbale dated 15 January 2013 the Ministry of Agriculture and Animal Resources requested further support from the Royal Norwegian Embassy towards the development of a

sustainable marine fishery and mandated UNIDO and the Norwegian Institute for Marine Research (IMR) to discuss concrete possibilities with the Royal Norwegian Embassy.

In subsequent discussions it was agreed with the Ministry and the Embassy that funds earmarked for the implementation of the trawl survey should be used to contribute towards the cost of the implementation of one additional trap survey in November 2013. Furthermore the Royal Norwegian Embassy agreed to provide NOK 2,250,520 (€ 262,810) as incremental funding required for the implementation of this additional trap survey.

## **2. Project objective:**

The main objectives of the project are to supply new and updated information on renewable marine resource (fish and shellfish stocks) in Republic of the Sudan's coastal waters, to strengthen capacities and to build the opportunities for the transfer of knowledge and know-how. This will form the knowledge base required for the modernisation of the Sudanese artisanal marine fisheries as well as for the development of a sustainable semi-industrial fishery in the Republic of the Sudan.

### **New and updated information**

The project aims to supply new and updated knowledge on the following

1. Distribution and basic biological measurements (size, sex, maturity etc) of coastal marine fish resources along the Republic of the Sudanese coast
2. Density and catch rates of different fish species
3. Assessment of total biomass for selected fish species to be useful for the management of fish resources
4. Environmental, habitat and oceanographic conditions along the coast (including data on elasmobranchs and shellfish)

### **Strengthening capacities**

1. Increase scientific capacity for planning and running research surveys
2. Increase scientific capacity for data processing and scientific assessment of stock status
3. Increase capacity on how to use and construct new scientific sampling gear (traps, long-lines etc)
4. Increase capacity in use of instrumentation (echosounder, GPS, CTD, ADCP)

### **Knowledge and know how transfer**

1. Transfer of knowledge of coastal fish resource distribution and biology to fishermen so that they can carry out their fishing on a better knowledge base
2. Transfer knowledge of new gear so that the fishermen have the possibility of using more effective gear and fishing methods.
3. Use the increased knowledge as a basis for future strategic plans for the fishing sector, ICZM and other marine management activities
4. Potential for semi-industrial fisheries

## **3. Budget Information**

### **a) Overall Cost and Financing (including co-financing):**

Budget according to UNIDO TC rules and regulations				
<b>NORWEGIAN CONTRIBUTION</b>				
<b>BL 11xx International Experts</b>				
<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>total</b>	
-	7,500.00	7,500.00	15,000.00	
<b>BL 15xx Local travel</b>				
<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>total</b>	
	3,500.00		3,500.00	
<b>BL 16xx Staff travel</b>				
<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>total</b>	
11,550.00	23,100.00		34,650.00	
<b>BL 17xx National experts/consultants</b>				
<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>total</b>	
	24,500.00	1,500.00	24,500.00	
<b>BL 21xx Subcontracts</b>				
<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>total</b>	
230,093.56	376,188.33		606,281.89	2101 IMR
38,650.00	89,800.00		128,450.00	2102 Aqua Action
			-	2103 Trawler
268,743.56	465,988.33		734,731.89	21xx subtotal
<b>BL 33xx In-service training</b>				
<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>total</b>	
8,051.28	14,588.72		22,640.00	
<b>BL 43xx Expendable Equipment</b>				
<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>total</b>	
6,646.37	13,482.73		20,129.10	
<b>BL 45xx Equipment</b>				
<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>total</b>	
30,230.24	45,294.06		75,524.30	
<b>BL 93xx support costs</b>				
<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>total</b>	
49,624.45	71,558.33	1,170.00	122,352.79	
<b>total Norwegian Contribution:</b>				
<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>total</b>	
<b>374,845.90</b>	<b>669,512.18</b>	<b>9,000.00</b>	<b>1,053,358.07</b>	
<b>UNIDO CONTRIBUTION in cash</b>				
<b>BL 17xx National experts/consultants</b>				
<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>total</b>	
	20,400.00		20,400.00	
<b>total UNIDO Contribution in cash</b>				
-	<b>20,400.00</b>		<b>20,400.00</b>	
<b>UNIDO CONTRIBUTION in kind</b>				
<b>BL 11xx International Experts</b>				
<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>total</b>	
32,061.50	60,834.50		92,896.00	
<b>BL 17xx National experts/consultants</b>				
<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>total</b>	
31,200.00	52,200.00		83,400.00	
<b>BL 45xx Equipment</b>				
<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>total</b>	
12,198.40			12,198.40	
<b>total UNIDO Contribution in kind</b>				
<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>total</b>	
<b>75,459.90</b>	<b>113,034.50</b>		<b>188,494.40</b>	
<b>total budget</b>				
<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>total</b>	
<b>450,305.79</b>	<b>802,946.68</b>	<b>9,000.00</b>	<b>1,262,252.47</b>	



## Output based budget Norwegian contribution

<b>2012</b>	€
Output 1: One winter trap survey (30 days at sea) carried out	288,639.42
Output 2: One winter trawl survey (5 days at sea) carried out	-
subtotal 2012	288,639.42
UNIDO support cost contribution	37,523.12
<b>total 2012</b>	<b>326,162.54</b>
<b>2013</b>	€
Output 3: one summer trap survey (30 days) at sea carried out	269,496.19
Output 4: Database of survey data developed, results analyzed and	30,606.94
Output 5: one additional winter trap survey (30 days) at sea carried out	299,172.74
Output 6. external evaluation	26,260.00
subtotal 2013	625,535.87
UNIDO support cost contribution	81,319.66
<b>total 2013</b>	<b>706,855.54</b>
<b>grand total</b>	<b>1,053,358.07</b>

## II. Objectives and scope of the evaluation

The purpose of the terminal evaluation is to enable the Government of the Republic of the Sudan, the Norwegian Embassy (the donor), counterparts, UNIDO and other stakeholders to:

- verify prospects for development impact and sustainability, providing an analysis of the attainment of the main objective and specific objectives of the project with a specific reference to delivery and completion of project outputs/activities, and outcomes/impacts based on indicators. The assessment includes re-examination of the relevance of the objectives and other elements of project design according to the project evaluation parameters defined in chapter IV.
- Enhance project relevance, effectiveness, efficiency and sustainability by proposing a set of recommendations with a view to ongoing and future activities and particularly on a possible second phase of the project.
- Draw lessons of wider applicability for the replication of the experience gained from this project at a national and regional level.

The key question of the evaluation is whether the project has made a significant contribution to improve the knowledge basis on renewable marine resources and to strengthen the capacities of the Marine Fisheries Administration, the Red Sea Research Institute and the Red Sea University.

## III. Methodology

The evaluation will be conducted by UNIDO in an independent manner. This evaluation will take a participatory approach in which project staff will be kept informed and regularly consulted during the evaluation, the evaluation team leader will properly carry out the review with the assistance by an national expert.

The methodology is based on:

1. A review of project documents, including but not limited to: The original project document, the documentation for the request of additional funds, survey reports, half yearly progress and financial reports,
2. The evaluation team could use the models available from (or reconstruct, if necessary) the theory of change for different types of intervention (allowing, capacity, investment, demonstration). The validity of the theory of change is examined through specific questions in the interviews and, possibly, through a survey of stakeholders.
3. Counter-factual information: In cases where the background information for the benchmarks is not available the evaluation team will aim at establishing a baseline approach through recall and secondary information.
4. Interviews with the Project Manager, personnel associated with project management, partner country focal points, project beneficiaries, and other surveys, reviews of documents deemed necessary by the evaluation team and/or UNIDO.
5. Interviews with project partners.
6. On-site observation of results achieved, including interviews of actual and potential beneficiaries of improved methods, practices and/or technologies.

#### **IV. Project Evaluation Parameters**

The **ratings for the parameters described in the following sub-chapters A to E will be presented in the form of a table** with each of the categories rated separately and with **brief justifications for the rating** based on the findings of the main analysis. An overall rating for the project should also be given. The rating system to be applied is specified in Annex 1.

##### **A. Project relevance and design**

*Relevance to national development and environmental agendas*, recipient country commitment, and regional and international agreements. See possible evaluation questions under “country ownership/drivenness” below

*Relevance to target groups*: relevance of the project's objectives, outcomes and outputs to the different target groups of the interventions (e.g. companies, civil society, beneficiaries of capacity building and training, etc.).

*Relevance to the Donor and UNIDO*: In retrospect, were the project's outcomes consistent with the strategies of the Norwegian Embassy for development cooperation with the Republic of the Sudan? Were they in line with the UNIDO mandate, objectives and outcomes defined in the Programme & Budget and core competencies?

Was the project's design adequate to address the problems at hand?

Was a participatory project identification process applied and was it instrumental in selecting problem areas and national counterparts?

Did the project have a clear thematically focused development objective, the attainment of which can be determined by a set of verifiable indicators?

Was the project formulated based on the logical framework approach?

Was the project formulated with the participation of national counterpart and/or target beneficiaries?

## **B. Effectiveness: objectives and planned final results at the end of the project**

Assessment of project outcomes will be a priority:

- What outputs and outcomes has the project achieved so far (both qualitative and quantitative results)? Has the project generated any results that could lead to changes of the assisted institutions? Have there been any unplanned effects?.
- Are the project outcomes commensurate with the original or modified project objectives? If the original or modified expected results are merely outputs/inputs, the evaluators should assess if there were any real outcomes of the project and, if there were, determine whether these are commensurate with realistic expectations from such projects.
- To what extent have the expected outputs and outcomes been achieved? How do the stakeholders perceive their quality? Were the targeted beneficiary groups actually reached?
- Identify the potential longer-term impacts or at least indicate the steps taken to assess these (see also below “monitoring of long term changes”). Wherever possible, evaluators should indicate how findings on impacts will be reported to the Norwegian Embassy in future.
- Catalytic or replication effects: the evaluation will describe any catalytic or replication effect of the project. If no effects are identified, the evaluation will describe the catalytic or replication actions that the project carried out. No ratings are requested for the project’s catalytic role.

## **C. Efficiency**

Was the project cost effective? Was the project the least cost option? Was project implementation delayed, and, if it was, did that affect cost effectiveness

Have the donor, UNIDO and Government/counterpart inputs been provided as planned and were adequate to meet requirements? Was the quality of UNIDO inputs and services as planned and timely?

## **D. Assessment of sustainability of project outcomes.**

Sustainability is understood as the likelihood of continued benefits after the Norwegian funded project ends. assessment of sustainability of outcomes will give

special attention to analysis of the risks that are likely to affect the persistence of project outcomes. This assessment should explain how the risks to project outcomes will affect continuation of benefits after the Norwegian funded project ends. It will include both exogenous and endogenous risks. The following four dimensions or aspects of risks to sustainability will be addressed:

- ✓ **Financial risks.** Are there any financial risks that may jeopardize sustainability of project outcomes? What is the likelihood of financial and economic resources not being available once Norwegian assistance ends? (Such resources can be from multiple sources, such as the public and private sectors or income-generating activities; these can also include trends that indicate the likelihood that, in future, there will be adequate financial resources for sustaining project outcomes.)
- ✓ **Sociopolitical risks.** Are there any social or political risks that may jeopardize sustainability of project outcomes? What is the risk that the level of stakeholder ownership (including ownership by governments and other key stakeholders) will be insufficient to allow for the project outcomes/benefits to be sustained? Do the various key stakeholders see that it is in their interest that project benefits continue to flow? Is there sufficient public/stakeholder awareness in support of the project's long-term objectives?
- ✓ **Institutional framework and governance risks.** Do the legal frameworks, policies, and governance structures and processes within which the project operates pose risks that may jeopardize sustainability of project benefits? Are requisite systems for accountability and transparency, and required technical know-how, in place?
- ✓ **Environmental risks.** Are there any environmental risks that may jeopardize sustainability of project outcomes? The evaluation should assess whether certain activities will pose a threat to the sustainability of the project outcomes. For example, The destruction of wetlands for the advancement of agriculture, or the presence of meteorological phenomena such as hurricanes and floods that threaten progress related to conservation and restoration of mangroves and thereby increase biodiversity undertaken by the project .

#### **E. Assessment of monitoring and evaluation systems and project management:**

- **M&E design.** Did the project have an M&E plan to monitor results and track progress towards achieving project objectives? The Evaluation will assess whether the project met the minimum requirements for the application of the Project M&E plan (see Annex 2).
- **M&E implementation.** The evaluation should verify that an M&E system was in place and facilitated timely tracking of progress toward project objectives by collecting information on chosen indicators continually throughout the project implementation period; annual project reports were complete and accurate, with well-justified ratings; the information provided by the M&E system was used during the project to improve performance and to adapt to changing needs; and projects had an M&E system in place with proper training for parties responsible for M&E activities to ensure that data will continue to be collected and used after project closure.
- **Budgeting and Funding for M&E activities.** In addition to incorporating information on funding for M&E while assessing M&E design, the evaluators will determine whether M&E was sufficiently budgeted for at the project planning stage and whether M&E was funded adequately and in a timely manner during implementation.
- **Project management.** Were the national management and overall coordination mechanisms efficient and effective? Did each partner have specific roles and responsibilities from the beginning till the end? Did each partner fulfill its role and

responsibilities (e.g. providing strategic support, monitoring and reviewing performance, allocating funds, providing technical support, following up agreed/corrective actions...)? Were the UNIDO HQ based management, coordination, quality control and technical inputs efficient, timely and effective (problems identified timely and accurately; quality support provided timely and effectively; right staffing levels, continuity, skill mix and frequency of field visits...)?

#### **F. Assessment of processes affecting achievement of project results**

The evaluation will consider, but need not be limited to, the following issues that may have affected project implementation and achievement of project results:

- a. **Preparation and readiness.** Were the project's objectives and components clear, practicable, and feasible within its time frame? Were counterpart resources (funding, staff, and facilities), and adequate project management arrangements in place at project entry?
- b. **Country ownership/drivenness.** Was the project concept in line with the sectoral and development priorities and plans of the country—or of participating countries, in the case of multi-country projects? Are project outcomes contributing to national development priorities and plans? Were the relevant country representatives from government and civil society involved in the project? Did the recipient government maintain its financial commitment to the project? Has the government—or governments in the case of multi-country projects—approved policies or regulatory frameworks in line with the project's objectives?
- c. **Stakeholder involvement.** Did the project involve the relevant stakeholders through information sharing and consultation. Did the project implement appropriate outreach and public awareness campaigns? Were the relevant vulnerable groups and powerful supporters and opponents of the processes properly involved?
- d. **Financial planning.** Did the project have the appropriate financial controls, including reporting and planning, that allowed management to make informed decisions regarding the budget and allowed for timely flow of funds? Was there due diligence in the management of funds and financial audits? Did promised co-financing materialize?
- e. **UNIDO supervision and backstopping.** Did UNIDO staff identify problems in a timely fashion and accurately estimate their seriousness? Did UNIDO staff provide quality support and advice to the project, approve modifications in time, and restructure the project when needed? Did UNIDO provide the right staffing levels, continuity, skill mix, and frequency of field visits for the project?
- f. **Co-financing and project outcomes and sustainability.** If there was a difference in the level of expected co-financing and the co-financing actually realized, what were the reasons for the variance? Did the extent of materialization of co-financing affect project outcomes and/or sustainability, and, if so, in what ways and through what causal linkages?
- g. **Delays and project outcomes and sustainability.** If there were delays in project implementation and completion, what were the reasons? Did the delays affect project outcomes and/or sustainability, and, if so, in what ways and through what causal linkages?

## V. Evaluation Team and Timing

The evaluation team will be composed of one international evaluation consultant acting as team leader and one national evaluation consultant.

UNIDO evaluation group will be responsible for the quality control of the evaluation process and report. It will provide inputs regarding findings, lessons learned and recommendations from other UNIDO evaluations, ensuring that the evaluation report is useful for UNIDO in terms of organizational learning (recommendations and lessons learned) and its compliance with UNIDO evaluation policy and these terms of reference.

The evaluation team will be able to provide information relevant for follow-up studies, including evaluation verification on request to the Norwegian Embassy up to two years after completion of the evaluation.

All consultants will be contracted by UNIDO. The tasks of each team member are specified in the job descriptions attached to these terms of reference.

Members of the evaluation team must not have been directly involved in the design and/or implementation of the programme/projects.

The UNIDO Field Office in Khartoum and the Project Office in Port Sudan will support the evaluation team. The Norwegian Embassy in Khartoum and the main Government counterparts of UNIDO will be briefed on the evaluation.

### Timing

The evaluation is scheduled to take place in **the period November 2013-January2014**. The field mission for the evaluation is scheduled for **November 2013**.

After the field mission, the evaluation team leader will come to UNIDO HQ for debriefing. The draft evaluation report will be submitted 4 weeks after the debriefing at the latest.

## VI. Reporting

### Inception report

This Terms of Reference provides some information on the evaluation methodology but this should not be regarded as exhaustive. After reviewing the project documentation and initial interviews with project manager(s) the International Evaluation Consultant will prepare a short inception report that will operationalize the TOR relating the evaluation questions to information on what type of and how the evidence will be collected (methodology). It will be discussed with and approved by the responsible UNIDO Evaluation Officer. The Inception Report will focus on the following elements: preliminary project theory model(s); elaboration of evaluation methodology including quantitative and qualitative approaches through an evaluation framework ("evaluation matrix"); Findings of Final Term Evaluation; division of work

between the International Evaluation Consultant and National Consultant; and a reporting timetable<sup>11</sup>.

### **Evaluation report format and review procedures**

The evaluation report should be brief, to the point and easy to understand. It must explain; the purpose of the evaluation, exactly what was evaluated and the methods used. The report must highlight any methodological limitations, identify key concerns and present evidence-based findings, consequent conclusions, recommendations and lessons. The report should provide information on when the evaluation took place, the places visited, who was involved and be presented in a way that makes the information accessible and comprehensible. The report should include an executive summary that encapsulates the essence of the information contained in the report to facilitate dissemination and distillation of lessons.

Evidence, findings, conclusions and recommendations should be presented in a complete and balanced manner. The evaluation report shall be written in English and follow the outline given in annex 3.

The evaluation report shall follow the structure given in annex 3. The reporting language will be English.

**Review of the Draft Report:** Draft reports submitted to UNIDO Evaluation Group are shared with the corresponding Programme or Project Officer for initial review and consultation. They may provide feedback on any errors of fact and may highlight the significance of such errors in any conclusions. The consultation also seeks agreement on the findings and recommendations. The evaluators will take the comments into consideration in preparing the final version of the report.

**Quality Assessment of the Evaluation Report:** All UNIDO evaluations are subject to quality assessments by UNIDO Evaluation Group. These apply evaluation quality assessment criteria and are used as a tool for providing structured feedback. The quality of the evaluation report will be assessed and rated against the criteria set forth in the Checklist on evaluation report quality (annex 4).

The draft report will be delivered to UNIDO and circulated to UNIDO staff associated with the project, including the UNIDO office in Khartoum.

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<sup>11</sup> The evaluator will be provided with a Guide on how to prepare an evaluation inception report prepared by the UNIDO Evaluation Group.

## **Annex 3 - Outline of an in-depth project evaluation report**

### **Executive summary**

- Must provide a synopsis of the storyline which includes the main evaluation findings and recommendations
- Must present strengths and weaknesses of the project
- Must be self-explanatory and should be 3-4 pages in length

### **Evaluation objectives, methodology and process**

- Information on the evaluation: why, when, by whom, etc.
- Scope and objectives of the evaluation, main questions to be addressed
- Information sources and availability of information
- Methodological remarks, limitations encountered and validity of the findings

### **Country and project background**

- Brief country context: an overview of the economy, the environment, institutional development, demographic and other data of relevance to the project
- Sector-specific issues of concern to the project<sup>12</sup> and important developments during the project implementation period
- Project summary:
  - Fact sheet of the project: including project objectives and structure, donors and counterparts, project timing and duration, project costs and co-financing
  - Brief description including history and previous cooperation
  - Project implementation arrangements and implementation modalities, institutions involved, major changes to project implementation
  - Positioning of the UNIDO project (other initiatives of government, other donors, private sector, etc.)
  - Counterpart organization(s)

### **Project assessment**

This is the key chapter of the report and should address all evaluation criteria and questions outlined in the TOR (see section III Evaluation Criteria and Questions). Assessment must be based on factual evidence collected and analyzed from different sources. The evaluators' assessment can be broken into the following sections:

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<sup>12</sup> Explicit and implicit assumptions in the logical framework of the project can provide insights into key-issues of concern (e.g. relevant legislation, enforcement capacities, government initiatives, etc.)



- A. Design
- B. Relevance (Report on the relevance of project towards countries and beneficiaries)
- C. Effectiveness (Report the achievement of project objectives, project outreach, and overall impacts commensurate with project objectives and catalytic effects)
- D. Efficiency (Report on the overall cost-benefit of the project and partner Country contribution to the achievement of project objectives)
  
- E. Sustainability (Report on the risks and vulnerability of the project, considering the likely effects of sociopolitical and institutional changes in partner countries, and its impact on continuation of benefits after the Norwegian funded project ends)
- F. Project coordination and management (Report the current conditions of project M&E implementation, project management conditions and achievements, relevance of partner country participation)
- G. (Report on project management conditions, country ownership, stakeholder involvement, partner countries commitment, implementation agency support, and project outcomes benefits and impacts)

### **Conclusions, Recommendations and Lessons Learnt**

This chapter can be divided into three sections:

#### **A. Conclusions**

This section should include a storyline of the main evaluation conclusions related to the project's achievements and shortfalls. It is important to avoid providing a summary based on each and every evaluation criterion. The main conclusions should be cross-referenced to relevant sections of the evaluation report.

#### **B. Recommendations**

This section should be succinct and contain few key recommendations. They should:

- be based on evaluation findings
- realistic and feasible within a project context
- indicate institution(s) responsible for implementation (addressed to a specific officer, group or entity who can act on it) and have a proposed timeline for implementation if possible
- be commensurate with the available capacities of project team and partners
- take resource requirements into account.

Recommendations should be structured by addressees:

- UNIDO
- Government and/or Counterpart Organizations
- Donor

### **C. Lessons Learnt**

- Lessons learned must be of wider applicability beyond the evaluated project but must be based on findings and conclusions of the evaluation
- For each lessons the context from which they are derived should be briefly stated

**Annexes** should include the evaluation TOR, list of interviewees, documents reviewed, a summary of project identification and financial data, and other detailed quantitative information. Dissident views or management responses to the evaluation findings may later be appended in an annex.

## Annex 4 - Checklist on evaluation report quality

### Independent Terminal Evaluation of the UNIDO Project

“Title.....”

(Project Number: .....)

Evaluation team leader:

Quality review done by:

Date:

<i>Report quality criteria</i>	<i>UNIDO Evaluation Group Assessment notes</i>	<i>Rating</i>
Report Structure and quality of writing		
The report is written in clear language, correct grammar and use of evaluation terminology. The report is logically structured with clarity and coherence. It contains a concise executive summary and all other necessary elements as per TOR.		
Evaluation objective, scope and methodology		
<p>The evaluation objective is explained and the scope defined.</p> <p>The methods employed are explained and appropriate for answering the evaluation questions.</p> <p>The evaluation report gives a complete description of stakeholder’s consultation process in the evaluation.</p> <p>The report describes the data sources and collection methods and their limitations.</p> <p>The evaluation report was delivered in a timely manner so that the evaluation objective (e.g. important deadlines for presentations) was not affected.</p>		
Evaluation object		
<p>The logic model and/or the expected results chain (inputs, outputs and outcomes) of the object is clearly described.</p> <p>The key social, political, economic, demographic, and institutional factors that have a direct bearing on the object are described.</p> <p>The key stakeholders involved in the object implementation, including the implementing agency(s) and partners, other key stakeholders and their roles are described.</p> <p>The report identifies the implementation status of the object, including its phase of implementation and any significant changes (e.g. plans, strategies, logical frameworks) that have occurred over time and explains the implications of those changes for the evaluation.</p>		

Findings and conclusions		
<p>The report is consistent and the evidence is complete (covering all aspects defined in the TOR) and convincing.</p> <p>The report presents an assessment of relevant outcomes and achievement of project objectives.</p> <p>The report presents an assessment of relevant external factors (assumptions, risks, impact drivers) and how they influenced the evaluation object and the achievement of results.</p> <p>The report presents a sound assessment of sustainability of outcomes or it explains why this is not (yet) possible.</p> <p>The report analyses the budget and actual project costs.</p> <p>Findings respond directly to the evaluation criteria and questions detailed in the scope and objectives section of the report and are based on evidence derived from data collection and analysis methods described in the methodology section of the report.</p> <p>Reasons for accomplishments and failures, especially continuing constraints, are identified as much as possible.</p> <p>Conclusions are well substantiated by the evidence presented and are logically connected to evaluation findings.</p> <p>Relevant cross-cutting issues, such as gender, human rights, environment are appropriately covered.</p>		
Recommendations and lessons learned		
<p>The lessons and recommendations are based on the findings and conclusions presented in the report.</p> <p>The recommendations specify the actions necessary to correct existing conditions or improve operations ('who?' 'what?' 'where?' 'when?').</p> <p>Recommendations are implementable and take resource implications into account.</p> <p>Lessons are readily applicable in other contexts and suggest prescriptive action.</p>		

Rating system for quality of evaluation reports

A number rating 1-6 is used for each criterion: Highly Satisfactory = 6, Satisfactory = 5, Moderately Satisfactory = 4, Moderately Unsatisfactory = 3, Unsatisfactory = 2, Highly Unsatisfactory = 1, and unable to assess = 0.

## Annex 5. Overall Ratings Table

Criterion	Evaluator's Summary Comments	Evaluator's Rating
<b>Attainment of project objectives and results (overall rating)</b>		
Sub criteria (below)		
Effectiveness		
Relevance		
Efficiency		
<b>Sustainability of Project outcomes (overall rating)</b>		
Sub criteria (below)		
Financial		
Socio Political		
Institutional framework and governance		
Ecological		
<b>Monitoring and Evaluation (overall rating)</b>		
Sub criteria (below)		
M&E Design		
M&E Plan Implementation (use for adaptive management)		
Budgeting and Funding for M&E activities		
<b>UNIDO specific ratings</b>		
Quality at entry		
implementation approach		
UNIDO Supervision and backstopping		
<b>Overall Rating</b>		

### RATING OF PROJECT OBJECTIVES AND RESULTS

- Highly Satisfactory (HS): The project had no shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
- Satisfactory (S): The project had minor shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.

- Moderately Satisfactory (MS): The project had moderate shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
- Moderately Unsatisfactory (MU): The project had significant shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
- Unsatisfactory (U) The project had major shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.
- Highly Unsatisfactory (HU): The project had severe shortcomings in the achievement of its objectives, in terms of relevance, effectiveness or efficiency.

**Please note:** Relevance and effectiveness will be considered as critical criteria. The overall rating of the project for achievement of objectives and results **may not be higher** than the lowest rating on either of these two criteria. Thus, to have an overall satisfactory rating for outcomes a project must have at least satisfactory ratings on both relevance and effectiveness.

## **RATINGS ON SUSTAINABILITY**

Sustainability will be understood as the probability of continued long-term outcomes and impacts after the GEF project funding ends. The evaluation will identify and assess the key conditions or factors that are likely to contribute or undermine the persistence of benefits beyond project completion. Some of these factors might be outcomes of the project, i.e. stronger institutional capacities, legal frameworks, socio-economic incentives /or public awareness. Other factors will include contextual circumstances or developments that are not outcomes of the project but that are relevant to the sustainability of outcomes.

### Rating system for sustainability sub-criteria

On each of the dimensions of sustainability of the project outcomes will be rated as follows.

- Likely (L): There are no risks affecting this dimension of sustainability.
- Moderately Likely (ML). There are moderate risks that affect this dimension of sustainability.
- Moderately Unlikely (MU): There are significant risks that affect this dimension of sustainability
- Unlikely (U): There are severe risks that affect this dimension of sustainability.

All the risk dimensions of sustainability are critical. Therefore, overall rating for sustainability will not be higher than the rating of the dimension with lowest ratings. For example, if a project has an Unlikely rating in either of the dimensions then its overall rating cannot be higher than Unlikely, regardless of whether higher ratings in other dimensions of sustainability produce a higher average.

## **RATINGS OF PROJECT M&E**

Monitoring is a continuing function that uses systematic collection of data on specified indicators to provide management and the main stakeholders of an ongoing project with indications of the extent of progress and achievement of objectives and progress in the use of allocated funds. Evaluation is the systematic and objective assessment of an on-going or completed project, its design, implementation and results. Project evaluation may involve the definition of appropriate standards, the

examination of performance against those standards, and an assessment of actual and expected results.

The Project monitoring and evaluation system will be rated on ‘M&E Design’, ‘M&E Plan Implementation’ and ‘Budgeting and Funding for M&E activities’ as follows:

- Highly Satisfactory (HS): There were no shortcomings in the project M&E system.
- Satisfactory(S): There were minor shortcomings in the project M&E system.
- Moderately Satisfactory (MS): There were moderate shortcomings in the project M&E system.
- Moderately Unsatisfactory (MU): There were significant shortcomings in the project M&E system.
- Unsatisfactory (U): There were major shortcomings in the project M&E system.
- Highly Unsatisfactory (HU): The Project had no M&E system.

“M&E plan implementation” will be considered a critical parameter for the overall assessment of the M&E system. The overall rating for the M&E systems will not be higher than the rating on “M&E plan implementation.”

All other ratings will be on the GEF six point scale.

HS	= Highly Satisfactory	Excellent
S	= Satisfactory	Well above average
MS	= Moderately Satisfactory	Average
MU	= Moderately Unsatisfactory	Below Average
U	= Unsatisfactory	Poor
HU	= Highly Unsatisfactory	Very poor (Appalling)

## Annex 6. Job Descriptions

### Job Description

International Evaluation Consultant

20 days over a period of 3 months

1 November 2013

Home based and travel to Vienna and Sudan

The consultant will evaluate the projects according to the Terms of Reference. S/he will act as leader of the evaluation team and will be responsible for preparing the draft and final evaluation report, according to the standards of the UNIDO Evaluation Group. S/he will perform the following tasks:

Main duties	Duration/ location	Deliverables
Review project documentation and relevant country background information (national policies and strategies, UN strategies and general economic data...); determine key data to collect in the field and prepare key instruments (questionnaires, logic models...) to collect these data through interviews and/or surveys during and prior to the field missions	Continuously	List of detailed evaluation questions to be clarified; questionnaires/ interview guide; logic models; list of key data to collect, draft list of stakeholders to interview during the field missions
Briefing with the UNIDO Evaluation Group, project managers and other key stakeholders.	Continuously	Interview notes, detailed evaluation schedule and list of stakeholders to interview during the field missions  Division of evaluation tasks with the National Consultant
Prepare inception report and discuss with UNIDO EVA	Continuously	Inception report
Conduct field mission to the Red Sea State in November 2013	7 days (including travel)	Presentations of the evaluation's initial findings, draft conclusions and recommendations to stakeholders in Khartoum at the end of the mission.  Agreement with the National Consultant on the structure and content of the evaluation report and the distribution of writing tasks
Present overall findings and recommendations to the stakeholders at UNIDO HQ (incl. travel)	Continuously	Presentation slides



Main duties	Duration/ location	Deliverables
Prepare the evaluation report according to TOR and template provided by UNIDO EVA  Coordinate the inputs from the National Consultant and combine with her/his own inputs into the draft evaluation report	Continuously	2 Draft evaluation report  Brief input report to country evaluation
Revise the draft project evaluation reports based on comments from UNIDO Evaluation Group and stakeholders and edit the language and form of the final version according to UNIDO standards	Continuously	Final evaluation report
<b>TOTAL</b>	<b>20 days</b>	

**Qualifications and skills:**

- ✓ Advanced degree in environmental science, development studies or related areas
- ✓ *Knowledge of and experience in coasts and oceans or related areas (e.g. biodiversity, integrated zone management, governance, maritime affairs)*
- ✓ *Knowledge and experience in the field of evaluation (of development projects)*
- ✓ Working experience in Africa.
- ✓ English

**Absence of Conflict of Interest:**

According to UNIDO rules, the consultant must not have been involved in the design and/or implementation, supervision and coordination of and/or have benefited from the programme/project (or theme) under evaluation. The consultant will be requested to sign a declaration that none of the above situations exists and that the consultants will not seek assignments with the manager/s in charge of the project before the completion of her/his contract with the Evaluation Group.

## Job Description

National Evaluation Consultant

20 days over a period of 4 months

15 October 2013

Home based, travel within Republic of the Sudan

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The consultant will participate and contribute to the project evaluation according to the evaluation Terms of Reference. S/he will be a member of the evaluation team, work under the supervision of the International Evaluation Consultant and carry out the task assigned to him/her by the International Evaluation Consultant, including the following tasks:

Main duties	Duration/ location	Deliverables
<p>Review project documentation and relevant country background information (national policies and strategies, UN strategies and general economic data...)</p> <p>Support the project management and the Sudan UNIDO Office in planning the evaluation field mission and contacting concerned organizations to prepare the evaluation program</p>	Continuously	<p>List of detailed evaluation questions to be clarified</p> <p>Evaluation mission programme</p>
<p>Carry out meetings, visits and interviews of stakeholders according to the evaluation program and facilitate the work of the evaluation team in the Republic of the (including acting as interpreter if necessary)</p> <p>Participate in drafting the main conclusions and recommendations, and present them to stakeholders in accordance with the instructions of the International Evaluation Consultant</p>	10 days	<p>Notes, tables; information gathered on issues specified in TOR</p> <p>Draft conclusions and recommendations to stakeholders</p>
<p>Contribute to the draft report as assigned by the International Evaluation Consultant</p>	Continuously	<p>First draft of chapters on the country background and other inputs into the draft evaluation report as agreed with the International Evaluation Consultant</p>
<p>Revise the draft chapters based on comments from UNIDO Evaluation Group and stakeholders</p>	Continuously	<p>Final evaluation report</p>
<b>TOTAL</b>	<b>20 days</b>	

**Qualifications:**

- ✓ Advanced degree in environmental science, development studies or related areas
- ✓ ***Knowledge of and experience in coasts and oceans or related areas (e.g. biodiversity, integrated zone management, governance, maritime affairs)***
- ✓ Familiarity with the institutional context of the project (environmental authorities, NGOs, etc.)
- ✓ Experience in evaluation of environmental projects
- ✓ Knowledge of UNIDO technical cooperation activities an asset.
- ✓ English and Arabic

**Absence of Conflict of Interest:**

According to UNIDO rules, the consultant must not have been involved in the design and/or implementation, supervision and coordination of and/or have benefited from the programme/project (or theme) under evaluation. The consultant will be requested to sign a declaration that none of the above situations exists and that the consultants will not seek assignments with the manager/s in charge of the project before the completion of her/his contract with the Evaluation Group.