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The Regional Organization for the Conservation of the Environment of the Red Sea and Gulf of Aden

Strategic Ecosystem Management of the Red Sea and Gulf of Aden Project

Draft Final Report
REVIEW OF LEGISLATION, STRATEGIES, POLICIES AND
MANAGEMENT PLANS FOR FISHERIES SECTORS IN THE PERSGA
COUNTRIES OF DJIBOUTI, JORDAN, SAUDI ARABIA, SUDAN AND
YEMEN
A REGIONAL SYNTHESIS

October 2015

A.R. Dawson Shepherd PhD.



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Cover illustration: Suakin Fishing Harbour, Sudan, 05th February 2015

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Abbreviations/Acronyms

Acronym	Title
ADDS	Agence Djiboutienne du Développement Sociale
AMP	Aqaba Marine Park
ASEZA	Aqaba Special Economic Zone Authority
CBA	Culture-Based Aquaculture
CBD	Convention on Biological Diversity
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMS/Bonn	The Convention on the Conservation of Migratory Species of Wild Animals (also known as CMS or the <i>Bonn Convention</i>)
COP	Conference of the Parties
CUS	Customary
DATE	Direction de l'Aménagement du Territoire et de l'Environnement Djibout
DoD	Directorate of Development, SMEAI, RSS, Sudan
DP	Direction de la Pêche Djibouti
EAA	Ecosystem Approach to Aquaculture
EAf	Ecosystem Approach to Fisheries
EBM	Ecosystem Based Management
EBSA	Ecologically or biologically significant marine areas
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EMP	Environmental Management Plan

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EMS	Environmental Management System
EPA	Environmental Protection Authority (Yemen)
ESA	Environmentally Sensitive Area
ESIA	Environmental and Social Impact Assessment
ESMF	Environment and Social Management Framework
ESMP	Environment and Social Management Plan
FAO	Food and Agricultural Organisation of the United Nations
GAI	General Authority for Investment (Saudi Arabia)
GDP	Gross Domestic Product
GEF	Global Environment Facility
Go	Government of
GRM	Grievance Redress Mechanism
HBA	Hatchery-Based Aquaculture
IUCN	International Union for the Conservation of Nature and Natural Resources
IUU	Illegal, Unreported and Unregulated Fishing
LOC	Local
LPG	Liquefied Petroleum Gas
MA	Ministry of Agriculture (Saudi Arabia)
MCS	Monitoring, Control and Surveillance
MEPA	Meteorology and Environmental Protection Administration (now PME)
METT	Management Effectiveness Tracking Tool
MFA	Marine Fisheries Administration, RSS, Sudan
MFW	Ministry of Fish Wealth (Yemen)
MMA	Marine Management Area
MoE	Ministry of Environment (Jordan)
MHUEAT	Ministre de l'habitat, de l'urbanisme, de l'environnement et de l'amenagement du territoire Djibouti
MoI	Ministry of the Interior (Saudi Arabia)
MMA	Marine Managed Area
MPA	Marine Protected Area
MSA	Ministry of Social Affairs (Yemen/Saudi Arabia)
MoSD	Ministry of Social Development (Jordan)
MSY	Maximum Sustainable Yield
MoU	Memorandum, of Understanding
MT	Metric Tonnes
NAT	National
NBSAP	National Biodiversity Strategy and Action Plan
NCWCD	National Commission for Wildlife Conservation and Development (Saudi Arabia)
NGO	Non-Governmental Organisation
NPOA	National Plan of Action
PA	Protected Areas
PAP	Project Affected Person
PERSGA	Regional Organisation for the Conservation of the Environment of the Red Sea and Gulf of Aden
PF	Process Framework
PME	Presidency for Meteorology and the Environment (formerly MEPA) Saudi Arabia

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PRO	Provincial
PVT	Private
RAP	Regional Action Plan
RBM	Rights based management
RFB	Regional Fishery Body
RFMO	Regional Fisheries Management Organisation
RPOA	Regional Plan of Action
RSS	Red Sea State (Sudan)
SDRS	Sustainable Development Reference System
SEM	Strategic Ecosystem Management
SMAANR	State Ministry of Agriculture, Animal and Natural Resources, RSS, Sudan
SMART	Specific; measurable; achievable and attributable; relevant and realistic; Time-bound; timely; trackable and targeted.
SMEAI	State Ministry of Economic Affairs and Investment, RSS, Sudan
SWA	Saudi Wildlife Authority (formerly NCWCD), Saudi Arabia
TGRF	Technical Guidelines for Responsible Fisheries (FAO)
ToR	Terms of Reference
TURFs	Territorial Use Rights for Fishing
UN	United Nations
UNDP	United Nations Development Programme
UN FCCC	United Nations Framework Convention on Climate Change
VMS	Vessel Monitoring System
WB	World Bank
WEM	Water and Environmental Ministry (Yemen)
WPA	Wildlife Police Administration (Sudan)
WTO	World Trade Organisation
WWF	World Wide Fund for Nature

Glossary

Biological diversity "*means the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.*" Article 2 UN (1992) Convention on Biological Biodiversity with Annexes. Concluded at Rio de Janeiro on 5th June 1992. <http://www.cbd.int/doc/legal/cbd-un-en.pdf>. PERSGA MPAs protocol has the same definition.

Biological resources: "*includes genetic resources, organisms or parts thereof, populations, or any other biotic component of ecosystems with actual or potential value for humanity*". Article 2.12: PERSGA (2005). The Protocol Concerning the Conservation of Biological diversity and the Establishment of a Network of Protected Areas the Red Sea and Gulf of Aden. PERSGA.

Catch shares (Quota and TURFs): "*Under quota-base catch shares, managers establish a fishery-wide catch limit and assign portions of the allowed catch or shares, to participants.*"

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Area-based catch shares, often called Territorial Use Rights for Fishing (TURFs), allocate secure and exclusive privileges to fish in specified areas¹. See definition of TURFs below.

Co-management: *“a situation in which two or more social actors negotiate, define and guarantee amongst themselves a fair sharing of the management functions, entitlements and responsibilities for a given territory, area or set of natural re-source”*. Borrini-Feyerabend, G., Farvar, M. T., Nguingiri, J. C. & Ndangang, V. A., (2000). Co-management of Natural Resources: Organising, Negotiating and Learning-by-Doing. GTZ and IUCN, Kasperek Verlag, Heidelberg (Germany). <http://learningforsustainability.net/pubs/cmnr.htm>.

Mariculture: Cultivation, management and harvesting of marine organisms in the sea, in specially constructed rearing facilities e.g. cages, pens and long-lines. For the purpose of FAO statistics, mariculture refers to cultivation of the end product in seawater even though earlier stages in the life cycle of the concerned aquatic organisms may be cultured in brackish water or freshwater or captured from the wild. FAO (2015). FAO Fisheries Glossary. <Http://www.fao.org/fi/glossary/default.asp>

Protected area: *“A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values”*. Dudley, N. (Editor) (2008). Guidelines for Applying Protected Area Management Categories. Gland, Switzerland: IUCN. x + 86pp. <http://data.iucn.org/dbtw-wpd/edocs/PAPS-016.pdf>. PERSGA MPAs protocol defines *“Protected area”*: means a geographically defined coastal and marine areas that are designated or regulated and managed to achieve specific conservation objectives”.

Refugia (Fisheries): *“Spatially and geographically defined, marine or coastal areas in which specific management measures are applied to sustain important species [fisheries resources] during critical stages of their lifecycle, for their sustainable use.”* SEAFDEC. 2006. Supplementary Guidelines on Co-management using Group User Rights, Fishery Statistics, Indicators and Fisheries Refugia, Southeast Asian Fisheries Development Center, Bangkok, Thailand. 84 pp. www.unepscs.org/SCS_Documents/startdown/484.html

Territorial Use Rights for Fisheries (TURFs): programs that allocate the right to harvest a secure area to an individual, group, or community².

Wetlands: *“...wetlands are areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six metres”³*.

¹ http://catchshares.edf.org/sites/catchshares.edf.org/files/What_is_a_Catch_Share.pdf

² MEAM (2014). Marine Ecosystems and Management. International news and analysis on marine ecosystem-based management. Vol. 7, No. 3. Pp. 8. December 2013-January 2014. <http://depts.washington.edu/meam/MEAM34.pdf>

³ http://www.ramsar.org/cda/en/ramsar-documents-texts-convention-on/main/ramsar/1-31-38%5E20671_4000_0__

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Wise use: “Wise use of wetlands is the maintenance of their ecological character, achieved through the implementation of ecosystem approaches, within the context of sustainable development”⁴.

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⁴http://www.ramsar.org/cda/en/ramsar-about-faqs-what-is-wise-use/main/ramsar/1-36-37%5E7724_4000_0__

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EXECUTIVE SUMMARY

BACKGROUND AND METHOD

This document is provided in support of delivery of Component 2 “*Strengthening Coastal Communities*” under the Global Environment Facility (GEF), World Bank, Organisation for the Environment of the Red Sea and Gulf of Aden (PERSGA) Strategic Ecosystem Management of the Red Sea (SEM) Project. The SEM Project has a focus on coastal and marine protected areas.

This document provides a synthesis review of legislative, strategy, policy and management opportunities and constraints to fisheries related **co-management**⁵ of coastal and marine **biological resources**⁶ in coastal and marine **biodiversity protected areas**⁷, **fisheries refugia**⁹, outside these areas and in an international context.

The synthesis is based on national reports for Djibouti, Jordan, Saudi Arabia, Sudan and Yemen each produced by a national consultant using a standardised template provided by the international consultant. The citations for these reports are given in Appendix III.

LEGAL AND POLICY REVIEW

None of the international legal instruments to which the SEM Project Countries are signatory make clear reference to co-management. However, the second principle of the ecosystem approach, agreed under the Convention of the Parties (COP) Decision V/6 to the International Convention on Biological Diversity, implies co-management. All the countries participating

⁵“a situation in which two or more social actors negotiate, define and guarantee amongst themselves a fair sharing of the management functions, entitlements and responsibilities for a given territory, area or set of natural resource”. Borrini-Feyerabend, G., Farvar, M. T., Nguingui, J. C. & Ndangang, V. A., (2000). Co-management of Natural Resources: Organising, Negotiating and Learning-by-Doing. GTZ and IUCN, Kasperek Verlag, Heidelberg (Germany). <http://learningforsustainability.net/pubs/cmnr.html>

⁶**Biological resources**: includes genetic resources, organisms or parts thereof, populations, or any other biotic component of ecosystems with actual or potential value for humanity”. Article 2.12: PERSGA (2005). The Protocol Concerning the Conservation of Biological diversity and the Establishment of a Network of Protected Areas the Red Sea and Gulf of Aden. PERSGA.

⁷“Biological diversity “means the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.” Article 2 UN (1992) Convention on Biological Biodiversity with Annexes. Concluded at Rio de Janeiro on 5th June 1992.

<http://www.cbd.int/doc/legal/cbd-un-en.pdf>. PERSGA MPAs protocol has the same definition.

⁸“A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values”. Dudley, N. (Editor) (2008). Guidelines for Applying Protected Area Management Categories. Gland, Switzerland: IUCN. x + 86pp. <http://data.iucn.org/dbtw-wpd/edocs/PAPS-016.pdf>. PERSGA MPAs protocol defines “Protected area”: a geographically defined coastal and marine areas that are designated or regulated and managed to achieve specific conservation objectives”.

⁹“Spatially and geographically defined, marine or coastal areas in which specific management measures are applied to sustain important species [fisheries resources] during critical stages of their lifecycle, for their sustainable use.” SEAFDEC. 2006. Supplementary Guidelines on Co-management using Group User Rights, Fishery Statistics, Indicators and Fisheries Refugia, Southeast Asian Fisheries Development Center, Bangkok, Thailand. 84 pp. www.unepscs.org/SCS_Documents/startdown/484.html

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in the SEM Project are signatories to the Biodiversity Convention and PERSGA is an observer.

The RAMSAR convention defines wetland and wise use which implies the use of co-management as a tool for delivering the Convention. Saudi Arabia is not a party to the Ramsar Convention and PERSGA is not an observer.

The Jeddah Convention and its Protocols are implicit, but not explicit, in identifying co-management as a tool for delivering the Convention¹⁰. Mechanisms for the delegation of management functions to the user as required to deliver co-management are not provided.

The FAO Code of Conduct for Responsible Fisheries and the draft PERSGA Memorandum of Understanding (MoU) on regional Cooperation in management of fisheries and aquaculture in the Red Sea imply but do not explicitly specify co-management.

Legal restrictions on use of coastal and marine biological resources in the SEM Project Countries that might be addressed using co-management are by species, by geographic area, by gear and by user. These restrictions are neither common to all the SEM Project countries nor are they comprehensive.

For example in respect of species shark fishing is not allowed in Jordan, Saudi Arabia and Sudan, is not allowed for grey and whale shark in Djibouti and is generally allowed in Yemen. Coral collecting is banned in all the SEM Project Countries. The only policy change in respect of species to be protected in the SEM Project country studies is the proposal that all shark species should be protected in Yemen.

In respect of protected areas two of the SEM Project Countries, Sudan and Saudi Arabia, have a mechanism for declaring fisheries refugia. Only Saudi Arabia has declared fisheries refugia although biodiversity protection areas can act as fisheries refugia if the status of the two types of area is compatible. No policies were identified in the SEM Project Component 2 national reports concerning fisheries refugia.

The area coverage of legally recognised coastal and marine biodiversity protection areas in percent of the EEZ of all SEM participating countries is 3.3% with a maximum of 8.4% for Djibouti (see table 04 in the main report). These figures include MPAs in Djibouti whose boundaries may still have to be specified in a regulation¹¹ and also the two areas designated as Fisheries Refugia together with the two terrestrial (island) reserves in the Saudi Arabian

¹⁰ For example (underlining added) The Jeddah Convention Protocol Concerning the Conservation of Biological diversity and the Establishment of a Network of Protected Areas the Red Sea and Gulf of Aden specifies Article 4.7: “Ensure that systems of coastal and/or land-use and tenure¹⁰ provide for inter-generational equity and are consistent with the principles for conservation and sustainable resource use and management” and Article 14.4: “Development of integrated management criteria that allow the use of natural resources by different users and avoid conflict of activities”.

¹¹ There are no boundary co-ordinates gazetted for coastal and marine protected areas in Djibouti so the figures are based on management plans. Whilst the management plans may have been adopted under the “*Décret n°2005-0056/PR/MHUEAT portant approbation du Plan de Gestion Intégrée de la Zone Côtière*” this may not constitute the required boundary demarcation regulation.

Red Sea. No marine areas are gazetted primarily as biodiversity protection in the Saudi Arabian Red Sea¹².

The total coastal and marine are primarily gazetted for biodiversity protection within the PERSGA SEM participating countries does not meet the Aichi biodiversity 2020 target of 10% specified in the 10th Conference of the Parties to the Biodiversity Convention in 2010 and in target 14.5 of the 2030 Agenda for Sustainable development agreed in September 2015¹³. A number of areas are proposed for biodiversity in policy documents as specified in the main report. The boundaries are not specified in these documents. Boundary specifications are required to determine whether legal recognition would result in the whole network of coastal and marine protected areas exceeding the 10% target but the proposals seem unlikely to deliver the target.

There is no consistent law between countries participating in the SEM Project in respect of fishing and mariculture in coastal and marine biodiversity protection areas. According to SEM Project Component 2 national reports (see table 05 in the main report) the Sudan allows fishing and mariculture in protected areas. Yemen and Jordan do not allow fishing and mariculture in protected areas. Djibouti allows fishing but does not allow mariculture in protected areas. Djibouti proposed policy¹⁴ is to allow non-commercial fishing in marine protected areas conditional on approval of the Ministry of Environment. As indicated above there are no marine areas primarily gazetted for biodiversity protection in the Saudi Arabian Red Sea. The Saudi national report suggests that mariculture would be allowed whilst industrial fishing would not be allowed in these areas. Subsistence/artisanal fishing would be allowed.

In all cases where fishing is allowed this does not include species that are protected throughout national waters in PERSGA SEM participating countries (see table 03 in the main report).

Whilst legislation supports restrictions by gear, in the SEM Project countries, generally speaking, there are no licensing restrictions by gear other than those general restrictions on fishing with explosives, spearguns etc. and there is little evidence of effective enforcement.

There is no evidence of any legal restriction in the number of individual fishers licensed to fish industrially in the SEM Project Countries other than for a ban on foreign fishers in Jordan. Fishing by foreigners is allowed in Djibouti, Sudan and Yemen. Information on the situation in the Saudi Arabian Red Sea is pending. Industrial restrictions are based on vessel and gear types and fishing areas and periods.

There is also no evidence for any legal restriction in the number of individuals who can undertake subsistence or artisanal fishing in those areas where it is allowed in the SEM

¹²Two terrestrial areas are gazetted within the Red Sea: Farasan Islands (696km²) and Um ah Qamari islands (0.1895km²)

¹³“By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information”. UN (2015). Transforming our world: the 2030 Agenda for Sustainable Development. September 2015.

<https://sustainabledevelopment.un.org/post2015/transformingourworld>

¹⁴ COFREPECHE (2013). Rapport Technique Final. Revue et mise a jour du cadre juridique et des textes reglement la peche en vigueur en Republique de Djibouti. N° de réf. Du projet : EA-1.2-B2b-NEG. ACPFishII.

Project countries. This is a significant constraint to introducing co-management systems since there is little incentive for users to manage the use of limited resources when there is open access.

There is no current legal basis for co-management of coastal and marine biological resources in the SEM Project Countries. The SEM Component 2 Djibouti Country report indicates that there is a validated draft law pending that does support co-management. However, the validated draft law presented in the COFREPECHE 2013 document¹⁵ does not support co-management of non-industrial subsistence/artisanal fishing by enabling restriction in the number of fishing licenses or for the delegation of management to the restricted number of users.

In respect of **administration** (see table 08 in the main report) in several cases the agency responsible for fisheries is also responsible for fisheries in protected areas designated for biodiversity conservation. This can create a potential conflict of interest since fisheries agencies are often tasked with development of fisheries and this may not always be compatible with biodiversity protection.

CO-MANAGEMENT SCHEMES

None of the national reports signal any operational co-management schemes.

Djibouti has one potential scheme relating to mariculture described below. Sudan has 20 possible schemes. 18 relate to fisheries co-operatives, one to mariculture and one to marine tourism. However, these schemes do not currently comply with the requirement, either for exclusion of certain users, or for management by the users.

STAKEHOLDER REGISTRATION

Identification (registration) and objective participation of stakeholders in the management and use of coastal and marine biological resources is central to effective co-management and compliance with the FAO “Code of Conduct for responsible fisheries” and the CBD “Ecosystem Approach”.

Since all the national consultants were male the interviewing and registration of female stakeholders for the national reporting process was culturally difficult. Of a total of 111 registrations undertaken by national consultants 5 (4.5%) were female. This is a concern since numbers of females participating in the SEM Project activities are key indicators in the results based framework. However, a follow-up registration exercise in Sudan, not reported in this document used female interviewers and increased the number of female registrants.

Of the 111 registrants reported on in this document 81.7% of significant livelihoods related to national fishing, 2.3% to international fishing, 4.6% to marine tourism and 11.5% to other livelihoods including Government and NGO management of coastal and marine biological resources.

¹⁵ COFREPECHE (2013). Rapport Technique Final. Revue et mise a jour du cadre juridique et des textes reglement la peche en vigueur en Republique de Djibouti. N° de réf. Du projet : EA-1.2-B2b-NEG. ACPFishII.

Key observations concerning quality of life (see table 11 in the main report) are low numbers of refrigerators and poor drinking water availability in Sudan and Yemen. All country reports indicated close proximity of primary health care and education to stakeholders. However, the standard of health care and primary education is not detailed in the surveys. Gas was the dominant cooking fuel in all four countries surveyed. Charcoal was also widely used by stakeholders in Sudan. Mangrove was reported to be used very occasionally in Djibouti (5%), Sudan (5%) and Yemen (24%).

Marine animals had been eaten within the last day by all the interviewees in Djibouti (100%) and by a majority in Jordan (66.7%) and Yemen (76%). A minority (30%) had eaten marine animals within the last day amongst the Sudanese interviewees.

The Component 2 SEM National Reports for Sudan and Yemen comment on the real poverty faced by fisher communities in these countries.

RECOMMENDATIONS

All the SEM Project Component 2 national reports recommended:

- i. introduction of co-management as a tool for the more effective and sustainable use of coastal and marine biological resources;
- ii. that PERSGA to continue to provide a co-ordinating role in helping the parties to the SEM Project to process the recommendations provided in the national reports.

Country specific recommendations are extensive and wide ranging and are not presented here. However, it is noted that Djibouti legislation requires that the boundaries of marine protected areas are specified in a regulation. This specification may still be pending and the matter should be addressed as a matter of urgency¹⁶.

It is suggested that it is necessary to make legislative changes to enable the implementation of co-management in the SEM Project Countries. At the very least the principle of the delegation of management to a restricted set of users and the tool of “Co-management” need to be identified in the legislation.

In respect of regional actions this report recommends additions to the PERSGA draft fisheries and aquaculture MoU regarding the recognition of co-management, the restriction of fisher licenses, the designation of fisheries refugia and the addition of species to Annexes 1 and 2 of the PERSGA 2005 MPAs protocol.

In respect of national actions it is recommended that national committees be set up with technical support from PERSGA to consider the recommendations proposed in the SEM Component 2 Project national reports. The key elements of a draft law are also proposed to

¹⁶There are no boundary co-ordinates gazetted for coastal and marine protected areas in Djibouti so the figures are based on management plans. Whilst the management plans may have been adopted under the “*Décret n°2005-0056/PR/MHUEAT portant approbation du Plan de Gestion Intégrée de la Zone Côtière*” this may not constitute the required boundary demarcation regulation.

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guide the revision of national legislation to allow the co-management of coastal and marine biological resources in the PERSGA region.

DRAFT

1. BACKGROUND

The Terms of Reference (ToR) for this consultancy are presented in Appendix I.

This document is provided in support of delivery of Component 2 “*Strengthening Coastal Communities*” under the Global Environment Facility (GEF), World Bank, Organisation for the Environment of the Red Sea and Gulf of Aden (PERSGA) Strategic Ecosystem Management of the Red Sea (SEM) Project. The SEM Project has a focus on coastal and marine protected areas.

This document provides a synthesis review of legislative, strategy, policy and management opportunities and constraints to fisheries related **co-management**¹⁷ of coastal and marine **biological resources**¹⁸ in coastal and marine **biodiversity**¹⁹ **protected areas**²⁰, **fisheries refugia**²¹, outside these areas and in an international context.

The synthesis is based on national reports for Djibouti, Jordan, Saudi Arabia, Sudan and Yemen each produced by a national consultant using a standardised template provided by the international consultant. The citations for these reports are given in Appendix III.

¹⁷“a situation in which two or more social actors negotiate, define and guarantee amongst themselves a fair sharing of the management functions, entitlements and responsibilities for a given territory, area or set of natural re-source”. Borrini-Feyerabend, G., Farvar, M. T., Nguingui, J. C. & Ndangang, V. A., (2000). Co-management of Natural Resources: Organising, Negotiating and Learning-by-Doing. GTZ and IUCN, Kasperek Verlag, Heidelberg (Germany). <http://learningforsustainability.net/pubs/cmnr.html>

¹⁸**Biological resources**: “includes genetic resources, organisms or parts thereof, populations, or any other biotic component of ecosystems with actual or potential value for humanity”. Article 2.12: PERSGA (2005). The Protocol Concerning the Conservation of Biological diversity and the Establishment of a Network of Protected Areas the Red Sea and Gulf of Aden. PERSGA.

¹⁹“Biological diversity” means the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.” Article 2 UN (1992) Convention on Biological Biodiversity with Annexes. Concluded at Rio de Janeiro on 5th June 1992.

<http://www.cbd.int/doc/legal/cbd-un-en.pdf>. PERSGA MPAs protocol has the same definition.

²⁰“A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values”. Dudley, N. (Editor) (2008). Guidelines for Applying Protected Area Management Categories. Gland, Switzerland: IUCN. x + 86pp. <http://data.iucn.org/dbtw-wpd/edocs/PAPS-016.pdf>. PERSGA MPAs protocol defines “Protected area”: means a geographically defined coastal and marine areas that are designated or regulated and managed to achieve specific conservation objectives”.

²¹“Spatially and geographically defined, marine or coastal areas in which specific management measures are applied to sustain important species [fisheries resources] during critical stages of their lifecycle, for their sustainable use.” SEAFDEC. 2006. Supplementary Guidelines on Co-management using Group User Rights, Fishery Statistics, Indicators and Fisheries Refugia, Southeast Asian Fisheries Development Center, Bangkok, Thailand. 84 pp. www.unepscs.org/SCS_Documents/startdown/484.html

2. METHOD

A regional workshop was held in Aqaba, Jordan from 01st to 3rd September 2014 to finalise inception planning for all components of the SEM project.

The international consultant presented a situation analysis and proposed questionnaires (Dawson Shepherd, 2014) with a focus on fisheries, in support of Component 2, at a workshop held at the PERSGA headquarters in Jeddah from 10th to 12th November 2014.

The methodology, agreed at the Jeddah workshop, comprised interviews, site visits and the completion of a number of templates listed below.

No	Template	Reason
0	National reporting template	Ensure standardisation of national reports.
1	National level Acts supporting co-management	Is there a legal chain of custody for co-management from National level Acts?
2	National level policies supporting co-management	Are there clear national level policies designed to support co-management practices particularly in recognition of the Ecosystem Approach and the Code of Conduct for Responsible Fisheries?
3	Register of co-management/other practices	Examples of operational co-management practices relating to use of coastal and marine biological resources.
4	Proposed co-management agreements	Examples of possible co-management agreements relating to use of coastal and marine biological resources.
5	Stakeholder registration	Registration of actual and possible co-management stakeholders relating to use of coastal and marine biological resources.

A reporting template, including these questionnaires²², was subsequently provided by the International Consultant on 17th November 2014. National reports, using this template, were processed to draft final version with the assistance of this international consultant between January and September 2015. The national reports are listed in Appendix III.

National reports were presented at a regional workshop in Jeddah from 04th to 06th May 2015.

3. RESULTS

The situation analysis report (Dawson Shepherd, 2014) summarises the international and PERSGA region legal and policy framework for the co-management of coastal and marine biological resources. The national reports are used for the regional synthesis of national legal

²² SEM Co2 national report template draft 141117.docx

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and policy frameworks. Soft copies of documents specified in the national reports can be obtained from the authors and/or PERSGA.

The following synthesis uses a traffic light system for illustrating the relevance of the indicator in the table. Red means negative, amber means ambiguous and green means positive.

3.1 PERSGA region

The table below summarises general information about the Countries bordering the Red Sea and Gulf of Aden. Shoreline length is taken from “*Indexmundi.com*”. Information on fish landings and fishers is taken from the SEM Component 2 Country reports and FAO Fishery and Aquaculture Country Profiles²³.

Table 01: General marine information on countries bordering the Red Sea and Gulf of Aden

Country	EEZ (a)		Shore (b)		Fish landings		Fishers (d)		Coral % (e)
	Km ²	%	Km	%	Tonnes (c)	%	Ind	Art	
Djibouti (f)	6947	0.38	314	2.60	900	0.38	0	700	0.2
Egypt (g)	91186	5.05	1705	14.11	4684	1.98	?	?	2.4
Eritrea	78703	4.36	2234	18.49	8893	3.76	?	?	1.1
Jordan	95	0.01	26	0.22	170	0.07	0	85	0.1
Saudi Arabia (g)	186392	10.33	1840	15.23	39916	16.87	4172		2.5
Somalia	830389	46.02	3205	26.52	32609	13.78	?	?	0.3
Sudan (g)	66411.91	3.68	853	7.06	5550	2.35	?	1900	1.2
Yemen	544416	30.17	1906	15.77	143921	60.82	?	41322	0.3
Total	1804539.91	100	12083	100	236643	100	?	?	8.1

(a) Sudan (Klaus, pers.com). Others <http://www.seaaroundus.org/>

(b) Mainland and islands (Egypt and Saudi shore length from UNEP); Others from Indexmundi.

(c) FAO Country Profiles and Sea Around Us <http://www.seaaroundus.org/>

(d) Ind = Industrial, Art = Artisanal. FAO Country Profiles/national reports;

(e) % of globe <http://www.seaaroundus.org/>;

(f) Artisanal landings from Djibouti national report/Darar (2004)

(g) VLIZ (2014). Maritime Boundaries Geodatabase, version 8. Availableonline at <http://www.marineregions.org/>. Consulted on 2015-04-07.

The majority of the EEZ (76%) and fish landings (74%) are associated with Somalia and Yemen. Much of this contribution comes from **outside** the Red Sea and Gulf of Aden region where the effects of the Somali Current and associated upwelling are strongest. These Somali current effects continue but diminish on moving into the Gulf of Aden and into the southern Red Sea. Information about fish landings, the number of industrial and artisanal fishers and vessels in the region, is incomplete and subjective.

3.2 International laws and policies

3.2.1 International laws

²³ <http://www.fao.org/fishery/countryprofiles/search/en>

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The following table lists the national status of countries participating in the SEM Project with respect to particular international and regional conventions.

Table 02: Status of key international biodiversity laws in SEM participating countries

International/regional Law*	Parties					
	Djibouti	Jordan	Saudi Arabia	Sudan	Yemen	PERSGA
CBD and Ecosystem Approach						**
CMS						**
CITES						**
RAMSAR						
FCCC/Kyoto Protocol						**
Jeddah Convention and MPAs Protocol						

*CBD – Convention on Biological Diversity; CMS – Convention on Migratory Species/Bonn Convention; CITES – Convention on International Trade in Endangered Species of Wild Fauna and Flora; Ramsar – Convention on Wetlands of International Importance especially as Waterfowl Habitat; FCCC – Framework Convention on Climate Change; **PERSGA has observer status.

None of these legal instruments makes clear reference to co-management. However, the second principle of the ecosystem approach, agreed under the Convention of the Parties (COP) Decision V/6 to the International Convention on Biological Diversity, implies co-management. All the countries participating in the SEM Project are signatories to the Biodiversity Convention and PERSGA is an observer.

Principle 2 of the Ecosystem Approach
<i>“Management should be decentralized to the lowest appropriate level²⁴”.</i>

The RAMSAR convention defines wetland and wise use which implies the use of co-management as a tool for delivering the Convention. Saudi Arabia is not a party to the Ramsar Convention and PERSGA is not an observer.

The Jeddah Convention and its Protocols are implicit, but not explicit, in identifying co-management as a tool for delivering the Convention²⁵. Mechanisms for the delegation of management are not provided.

²⁴ <https://www.cbd.int/ecosystem/principles.shtml>

²⁵ For example (underlining added) The Jeddah Convention Protocol Concerning the Conservation of Biological diversity and the Establishment of a Network of Protected Areas the Red Sea and Gulf of Aden specifies Article 4.7: “Ensure that systems of coastal and/or land-use and tenure²⁵ provide for inter-generational equity and are consistent with the principles for conservation and sustainable resource use and management” and Article

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DRAFT

14.4: “Development of integrated management criteria that allow the use of natural resources by different users and avoid conflict of activities”.

3.2.2 International Policies

Policies are not laws and they are not legally binding. They signal the intention to change the law or provide guidance as to how the law should be implemented. The written law should always take precedence over policy that does not explicitly aim to deliver a written law.

Code of Conduct for Responsible Fisheries

The key relevant instrument in respect of strategic ecosystem management of fisheries is the Code of Conduct for Responsible Fisheries²⁶. The FAO Code of Conduct for Responsible Fisheries is voluntary though it contains elements that are legally binding under relevant law.

FAO has produced, and continues to produce, a substantial set of Technical Guidelines for Responsible Fisheries (TGRF)²⁷.

PERSGA is a Regional Fisheries Body within FAO and member states of PERSGA are also members of FAO.

The FAO code of Conduct for responsible fisheries has 19 general principles all of which relate to strategic ecosystem management. However, the two most important in respect of co-management are principle 1 and principle 18.

Principle 1 of the Code of Conduct for Responsible Fisheries

“States and users of living aquatic resources should conserve aquatic ecosystems. The right to fish carries with it the obligation to do so in a responsible manner so as to ensure effective conservation and management of the living aquatic resources”.

Principle 18 of the Code of Conduct for Responsible Fisheries

“Recognizing the important contributions of artisanal and small-scale fisheries to employment, income and food security, States should appropriately protect the rights of fishers and fishworkers, particularly those engaged in subsistence, small-scale and artisanal fisheries, to a secure and just livelihood, as well as preferential access, where appropriate, to traditional fishing grounds and resources in the waters under their national jurisdiction.”

Jeddah Convention Policies

In its resolution Nr. 01/14 (24/03/2011)-paragraph (4), the 14th PERSGA Ministerial Council Meeting held in Aqaba in March 2011 has requested PERSGA to “develop a regional MoU for cooperation and coordination in fisheries management in the Red Sea and Gulf of Aden,

²⁶FAO.Code of Conduct for Responsible Fisheries Rome, FAO. 1995. 41 p.

<ftp://ftp.fao.org/docrep/fao/005/v9878e/v9878e00.pdf>

²⁷ <http://www.fao.org/fishery/publications/technical-guidelines/en>

particularly in implementing responsible fisheries and ecosystem based management; combating IUU fishing and reduction of negative impacts of fisheries on biodiversity and marine environment”. The Ministerial Council resolution (paragraph 2) has also requested PERSGA “to continue its established partnership with FAO with the aim of strengthening regional coordination and cooperation mechanism for sustainable management of marine fisheries in the Red Sea and Gulf of Aden”.

This resolution shows a clear commitment to the (code of conduct) for responsible fisheries and ecosystem based management. Although Strategic Ecosystem Management is not explicitly mentioned it is implicit in ecosystem based management and the ecosystem approach.

The draft MoU (PERSGA, 2013) responds to the PERSGA Ministerial Council resolution Nr. 01/14 (24/03/2011) and explicitly specifies the code of conduct for responsible fisheries (preamble) and the ecosystem based management (Article 4, General Obligations). However, it does **not** clearly specify a commitment to stewardship certification, co-management/TURFs although a number of the proposed articles indirectly imply the use of co-management.

Article 9.1 specifies: “*Within areas under national jurisdiction, Contracting Parties should seek to identify relevant domestic parties having a legitimate interest in the use and management of fisheries resources and establish arrangements for consulting them to gain their **collaboration** in achieving responsible fisheries;*”

Article 9.4.c. specifies: “*subsistence, small-scale and artisanal fisheries are safeguarded and/or promoted;*”

Article 13.3 specifies the need to: “*.....encourage and develop, where appropriate, methods of **cooperation** for the development and use of technologies, including indigenous and traditional technologies.....*”

It should be noted that the draft MoU does not specify any financial mechanism for delivering the obligations of the MoU. It should also be noted that, without adequate financing, it will not be possible to support the implementation of any approved MoU.

The draft MoU signals a number of key activities of relevance to co-management including:

1. Provision of species lists for the current “empty” Annexes 1 and 2 of the 2005 PERSGA Regional Protocol Concerning the Conservation of Biological Diversity and Establishment Protected Areas.
2. RPOA²⁸-IUU²⁹
3. RPOA – Sharks
4. RPOA – Marine Turtles
5. RPOA – Seabirds
6. RPOA – Marine Mammals

²⁸ Regional Plan of Action (RPOA)

²⁹ Illegal, Unreported and Unregulated Fishing (IUU)

All these activities are pending implementation which is contingent on signing of the MoU, and on financing. However, it should be noted that other PERSGA instruments also require the delivery of some of these activities.

3.3 National laws and policies

The focus of this review is on the opportunities and constraints to the delivery of the sustainable use of coastal and marine biological resources principally through the introduction of co-management.

Sustainable use of coastal and marine biological resources can be achieved by restricting use so that the amount of the resource that is extracted is equal to, or less than, the capacity (carrying capacity) of that resource to replace what is extracted. Commonly used restrictions include restrictions on the species, the condition of the species, the geographic areas, the time period, the gear type, the number of resource users, and by a combination of one or more of these restrictions.

The simplest restriction of most direct relevance to co-management is a restriction of the number of resource users. Whilst co-management is possible if there is no limit on the number of users it requires either: (a) that the resource is not limited, in which case management is not necessary; or (b) that the users self-manage use which will become more difficult and more likely to result in competition and conflict as there are more resource users and the return to each resource user falls.

Of course other restrictions can be put in place without the need for co-management. However, this requires significant investment in monitoring, control and surveillance. This investment is not available to many of the countries that are party to the Jeddah Convention.

3.3.1 National laws

The following is based on information provided in the **national reports** listed in Appendix III to which reference should be made for further information.

Restrictions by species

Sustainable use of coastal and marine biological resources can partly be delivered by providing **restrictions** on the use of particular species so that their carrying capacity is not exceeded. Options include a complete ban on the extraction of these species or restrictions by species size and condition, geographic area, time, gear, and number of users.

The 2005 Protocol to the Jeddah Convention Concerning the Conservation of Biological diversity and the Establishment of a Network of Protected Areas the Red Sea and Gulf of Aden has two annexes relating to species protection. The first annex provides for a list, to be provided by each contracting party, of threatened species. The second annex provides for a list, to be provided by each contracting party, of species whose exploitation is regulated. Both lists are currently empty.

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Table 3 below, based on information in the national reports, indicates whether exploitation of the following species/groups is allowed (yes/green), or, is not allowed (no/red), **throughout** the coastal and marine areas of the respective country or if their protection status is unknown (?/amber).

Table 03: Protected marine species in the PERSGA SEM participating countries

Species/group	Djibouti	Jordan	Saudi Arabia	Sudan	Yemen
Dugong	No	NF	No	No	No
Whales and dolphin (all)	No	No	No	No	No
Whales and dolphin (some)	No				
Marine turtles	No	No	No	No	No
Marine turtle eggs	No	NF	No	No	No
Humphead wrasse	No	Yes	Yes	No	Yes
Shark (all)		No		No	Yes
Shark (some)	No		No		
Whale shark	No	No	No	No	Yes
Manta ray	No	Yes	Yes	No	Yes
Coral	No	No	No	No	No
Mangrove	Yes*	NF	No	No	No
Key:	Not allowed (no)	Allowed (yes)	Don't know (?)	Not found (NF)	Not applicable (NA)

* Article 14 of Decree No. 2004-0065 / PR / MHUEAT concerning protection of biodiversity specifies that "Cutting of mangroves for animal feed is allowed during the dry season which runs from 1 June to 30 September".

A number of these species/groups have international trade protection under the CITES convention to which all the SEM Project participating countries are a party. It should be noted that dugong and mangrove are not found, and turtle nesting does not currently occur, in Jordanian waters.

The only clear allowable use for the species/ groups in this list that are otherwise protected is for mangrove in Djibouti. Whilst Article 10 of Décret no 2004-0065/PR/MHUEAT specifies that "It is forbidden to cut down all trees, including mangroves, over the whole of the Republic of Djibouti, without prior written authorization...." Article 14 specifies that "The pruning of mangroves is allowed to feed only during the dry season which runs from June 1 to September 30".

It is worth noting that shark fishing is not allowed in Jordan, Saudi Arabia and Sudan, is not allowed for grey and whale shark in Djibouti and is generally allowed in Yemen.

Restrictions are also provided for certain other species, for example in the form of a closed season for sea-cucumber (fishing for sea cucumber has been banned in Sudan since 2013),

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and for ornamental fish in Sudan (September until June). There are also catch quotas for certain fisheries such as the trawl and seine fisheries in Sudan.

Restrictions by geographic area

A second mechanism for ensuring sustainable use of coastal and marine biological resources is to reduce or prevent use in certain areas/zones that can replenish adjacent areas where use is higher. Fisheries refugia and biodiversity protection areas are examples of this mechanism. These zones can be sub-zoned by area and or time to provide further restrictions on use.

The only countries with a legal mechanism for designated fisheries refugia in the countries participating in the SEM Project are Saudi Arabia and Sudan. Saudi Arabia has designated two areas as fisheries refugia in the Red Sea. These are Ras Turfa north of Jizan, which is completely closed to fishing, and Al Khoraiba Lagoon by the entrance to the Gulf of Aqaba, which is closed to industrial fishing. The boundaries of these areas are not specified by coordinates but there is a map of these areas. The area of RasTurfa is 80km² and of Al Khoraiba is 120 Km². No areas are primarily designated as fisheries refugia in any of the other PERSGA SEM participating countries. However, biodiversity protection areas can act as fisheries refugia provided that their use as fisheries refugia is compatible with biodiversity conservation.

The following table indicates the number of coastal and marine areas with **biodiversity protection** in the Countries participating in the SEM Project.

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Table 04: Coastal and Marine Biodiversity Protection areas in PERSGA SEM participating countries.

Country	Legally designated biodiversity protected area (coastal and marine)	Area specified		EEZ (b)	% EEZ
		Law	Area (Km ²) (a)		
Djibouti	Iles des Sept Frères etc	No (c)	400.0	6947.0	8.4
	Iles de Mousha/Maskhali	No (c)	36.6		
	Douda/Haramous	No (c)	150.0		
Jordan	Aqaba Marine Park (d)	Part	2.8	95.0	2.9
Saudi Arabia	Ras Turfa (fisheries refugia)	?	80.0	186392.0	0.4
	Al Khoraiha (fisheries refugia)	?	120.0		
	Farasan Islands (terrestrial)	?	696.0		
	Um ah Qamari islands (terrestrial)	?	0.2		
Sudan	Donganab Federal Reserve (e)	Yes	2808.0	66411.9	4.2
	Sanganeb National Park (f)	No	22.0		
Yemen	Aden wetland (g)	?		544416.0	4.0
	Socotra (h)	Yes	21899.0		
	Kamaran (i)	Yes	50.1		
Total			26264.7	804261.9	3.3

(a) Marine and terrestrial

(b) Area of EEZ Sudan (Klaus, pers.com). Others <http://www.seaaroundus.org/>

(c) A regulation specifying boundaries has not been issued. Area based on A.B.D. & Associés (2013, page 27).

(d) GoJ (2001). Regulation for the Aqaba Marine Park. Regulation No. 22 for the year 2001 and <http://www.aqabazone.com/en/environment/the-aqaba-marine-park/> (7km x 400m). Landwards and seawards extent from Regulation 22/2001. Length from website.

(e) GoS (2004). Order to Designate the Donganab Area of the Red Sea a Federal Reserve for the Year 2004. Presidency of the Republic of Sudan.

(f) Area not specified in the law 1990/616. Area specified in PERSGA/GEF. 2004.

Sanganeb Marine National Park Site-Specific Master Plan with Management Guidelines.

(g) Aden wetland is not marine

(h) GoY (2000). Republican Resolution No. 275 of 2000 creating protected zones for the development in the Saqatry Islands Group. Official Gazette No. 18, 30 September 2000, 7

(i) GoY (2009). Prime Ministerial (Cabinet) Decree No. (310) of 2009, concerning the Establishment of the Kamaran Protected Area. Government of Yemen.

The area coverage of legally recognised coastal and marine biodiversity protection areas in percent of the EEZ of all SEM participating countries is 3.3% with a maximum of 8.4% for Djibouti. These figures include MPAs in Djibouti whose boundaries may still have to be specified in a regulation³⁰ and also the two areas designated as Fisheries refugia together with the two terrestrial (island) reserves in the Saudi Arabian Red Sea. No marine areas are gazetted as biodiversity protection in the Saudi Arabian Red Sea³¹. The total for SEM

³⁰There are no boundary co-ordinates gazetted for coastal and marine protected areas in Djibouti so the figures are based on management plans. Whilst the management plans may have been adopted under the “*Décret n°2005-0056/PR/MHUEAT portant approbation du Plan de Gestion Intégrée de la Zone Côtière*” this may not constitute the required boundary demarcation regulation.

³¹Two terrestrial areas are gazetted within the Saudi Red Sea: Farasan Islands (696km²) and Um ah Qamari islands (0.1895km²)

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participating countries does not meet the Aichi biodiversity 2020 target of 10% specified in the 10th Conference of the Parties to the Biodiversity Convention in 2010 and in target 14.5 of the 2030 Agenda for Sustainable development agreed in September 2015³².

Table 05 below, based on information in the national reports, indicates whether artisanal and industrial wild caught fishing and mariculture is allowed in protected areas (yes/green), not allowed (no/red) or the protection status is unknown (?/amber).

Table 05: Biodiversity protected areas and fishing and mariculture in PERSGA SEM participating countries.

Country	Protected area (PAs) (a)	Wild caught		Mariculture (b)	
		Industrial	Artisanal	Industrial	Artisanal
Djibouti	Iles des Sept Frères etc	Yes	Yes	No	No
	Iles de Mousha/Maskhali	Yes	Yes	No	No
	Douda/Haramous	Yes	Yes	No	No
Jordan	Aqaba Marine Park	No	No	No	No
Saudi Arabia (c)	None specified	No	Yes	Yes	
Sudan	Donganab Federal Reserve	Yes	Yes	Yes	Yes
	Sanganeb National Park	Yes	Yes	Yes	Yes
Yemen	Socotra	No	No	No	No
	Kamaran	No	No	No	No
Key:		Not allowed (no)	Allowed (yes)	Don't know (?)	Not applicable (NA)

(a) Species that are protected nationally cannot be exploited anywhere in the EEZ of these countries.

(b) Mariculture is also not currently allowed outside PAs/refugia in the EEZ of Jordan. It is allowed outside PAs/refugia in the EEZ of Djibouti, Sudan and Yemen.

(c) No Marine Protected areas are yet legally designated in the Saudi Arabian Red Sea. Two areas are designated as fisheries refugia in the Saudi Arabian Red Sea. Ras Turfa north of Jizan, is completely closed to fishing, and Al Khoraba Lagoon by the entrance to the Gulf of Aqaba, is closed to industrial fishing.

It is clear from the table that there is no consistent law in respect of fishing and mariculture in coastal and marine biodiversity protection areas in the SEM Project countries. According to national component 2 SEM reports the Sudan allows fishing and mariculture in protected areas, Yemen and Jordan does not allow them. Djibouti allows fishing but does not allow mariculture. No marine protected areas are designated in the Saudi Arabian Red Sea but it is understood that industrial fishing would not be allowable in these areas should they be designated whilst subsistence fishing and mariculture would.

³²“By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information”.UN (2015). Transforming our world: the 2030 Agenda for Sustainable Development. September 2015.

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The national reports indicate that there is no policy to adjust the current arrangements regarding fishing and mariculture in protected areas.

Restrictions by gear

There is some evidence of legal quotas being set in a number of the countries participating in the SEM Project by number of licensed vessels and by type of gear. Industrial trawling using trawling gear, in Sudan is subject to a vessel quota (18 boats), a catch quota (90 tons/boat/season) and a season (November to May). However, generally speaking there are no licensing restrictions by gear other than those general restrictions on fishing with explosives, spearguns etc.

Restrictions by user

There is no evidence of any legal restriction in numbers of individuals licensed to fish industrially in the countries participating in the SEM Project other than for a ban on foreign fishers in Jordan. Fishing by foreigners is allowed in Djibouti, Sudan and Yemen. Industrial restrictions are based on vessel and gear types, catch quotas, fishing areas and periods and not on number of fishers. Fishing by foreigners is allowed in the industrial sector in Saudi Arabia but not in the artisanal/subsistence sector.

There is also no evidence for any legal restriction in the number of individuals who can undertake subsistence or artisanal fishing or non-extractive use of coastal and marine biological resources in those areas where it is allowed in any of the PERSGA SEM participating countries. This lack of restriction is a significant constraint to introducing co-management systems since there is little incentive for users to manage the use of limited resources when there is open access.

3.3.2 National Policies

Restrictions by species

The only animal group proposed for protection in the policy documents reviewed is shark in Yemen (NBSAP, 2005). Djibouti legislation indicates that CITES listed species are protected so any new CITES listed species found in Djibouti should be protected under Djiboutian law in respect of international trade though not, necessarily internal trade.

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Table 06: Marine species proposed for protection in PERSGA SEM participating countries

Species/group/eggs	Djibouti	Jordan	Saudi Arabia	Sudan	Yemen
Dugong		NF (a)			
Whales and dolphin (all)					
Whales and dolphin (some)					
Marine turtles					
Marine turtle eggs		NF (a)			
Humphead wrasse					
Shark (all)					No (b)
Shark (some)					
Whale shark					
Manta ray					
Coral					
Mangrove		NF (a)			
Other					
Key to policy proposals	Not allowed (no)	Allowed (yes)	Don't know (?)	Not found (NF)	Not proposed

(a) NF (not found) means that the species/group/eggs are not found in the Jordanian national waters.

(b) Yemen NBSAP (2005)

Restrictions by geographic area

Protected areas proposed in the policy documents that were reviewed are listed below. Boundaries for these proposed areas are not specified and are required to determine whether legal recognition would result in the whole network of coastal and marine protected areas exceeding the 10% target.

Table 07: Proposed coastal and Marine Biodiversity protected areas in PERSGA SEM participating countries.

Country	Proposed Protected area (coastal and marine)	Source
Djibouti	None	NBSAP 2001
Jordan	None	NBSAP 2015
Saudi Arabia (Red Sea)	None	NBSAP (NCWCD, 2005)
	5 areas	Straits of Tiran, Wajh Bank, ShamHabban, ShamMunaybirah, Farasan Islands. PERSGA/GEF (2002)
	46 areas proposed	MEPA 1987
Sudan	Red Sea Salt marshes and mangroves	Sudan 5th national report 2014
Yemen	Sikkha IIsand	Yemen NBSAP 2005
	Jethmun-Shama	
	Al-Lohayah	

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The CBD Regional Workshop to facilitate the description of ecologically or biologically significant marine areas (EBSAs) in the north-west Indian Ocean and adjacent gulf areas, and training session on EBSAs provided no additional proposals regarding protected areas in the PERSGA SEM participating countries.

Target 14.5 of the 2030 Agenda for Sustainable development agreed in September 2015³³ reiterates the 10% Aichi biodiversity 2020 target of 10% specified in the 10th Conference of the Parties to the Biodiversity Convention in 2010.

3.3 Administrative arrangements

Table 08 below illustrates the national agency mandates with respect to fisheries and also coastal and marine protected areas. In Djibouti, Jordan, Saudi Arabia and Sudan the agency responsible for fisheries is also responsible for fisheries in protected areas designated for biodiversity conservation. This can create a potential conflict of interest since fisheries agencies are often tasked with development of fisheries and this may not always be compatible with biodiversity protection.

Table 08: Agencies mandated for coastal and marine biodiversity protection in PERSGA SEM participating countries.

Country	Biodiversity Protected areas			Other areas		
	Fisheries	Other biodiversity	Social Welfare	Fisheries	Other biodiversity	Social welfare
Djibouti	DATE/DP	DATE	ADDS	DP	DATE	ADDS
Jordan	(a)	AMP	MoSD	ASEZA/AMP	ASEZA/MoE	MoSD
Saudi Arabia	SWA/MA	SWA	MSA	MA	SWA	MSA
Sudan (b)	MFA RSS	MFA RSS	DoD RSS	MFA RSS	MFA RSS	DoD RSS
Yemen	(a)	EPA/WEM	MSA	MFW	EPA/WEM	MSA

For full names see abbreviations section.

(a) fishing is not allowed in marine protected areas in Yemen and Jordan

(b) Assumes Red Sea State responsibility for coastal and marine biological resources.

The national reports indicate no intention to change current policy regarding the mandates of the above tabled agencies.

3.4 Co-management schemes

None of the national reports signal any operational co-management schemes.

The numbers of potential co-management schemes indicated in the national reports are tabled by scheme and country below.

³³“By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information”.UN (2015). Transforming our world: the 2030 Agenda for Sustainable Development. September 2015.

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Table 09: Potential co-management schemes in PERSGA SEM participating countries.

Potential Co-management scheme sector	Djibouti	Jordan	Saudi Arabia	Sudan	Yemen	Total
Fishing	0	0	0	18	0	18
Mariculture	0	0	0	1	0	1
Mangrove	1	0	0	0	0	1
Marine tourism	0	0	0	1	0	1
Other	0	0	0	0	0	0
Total	1	0	0	20	0	21

Djibouti has one potential scheme relating to mariculture as described in 3.4.1 below. Sudan has 20 possible schemes. 18 relate to fisheries co-operatives, one to mariculture as described in 3.4.2 below, and one to marine tourism. However, these schemes do not currently comply with the requirement, either for exclusion of certain users, or for management by the users.

3.5 Stakeholder registration

Identification (registration) and objective participation of stakeholders in the management and use of coastal and marine biological resources is central to effective co-management and compliance with the FAO “Code of Conduct for responsible fisheries” and the CBD “Ecosystem Approach”.

A transparent, objective and participatory system for restricting licenses to use coastal and marine biological resources in support of co-management agreements requires that all stakeholders that have a claim to a dependency on these resources are objectively registered.

The national consultants tested a system for registration and the results of the registration are reported below. No registrations/interviews were undertaken in Saudi Arabia. Additional information can be obtained from the national reports listed in Appendix III. A simplified registration to help maximise the number of persons registered has been tested subsequently in Sudan but is not reported on here.

A key constraint to registration was identifying stakeholders to register. Many communities are highly hierarchic in nature so it is not usual to seek the opinions of individuals. Access to female stakeholders is also culturally difficult. In addition active fishers are often away fishing and the people that are around when interviewers are interviewing may not be economically active.

Since all the national consultants were male the registration of female stakeholders for the national reporting process was culturally difficult. Of a total of 111 registrations undertaken by national consultants 5 (4.5%) were female. This is a concern since numbers of females participating in the SEM Project activities are key indicators in the results based framework.





Access to female stakeholders was addressed in the simplified registration process subsequently tested in Sudan by using female interviewers. Registering of fishers requires that interviewers are available at the convenience of fishers and not the other way round.

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Information on three stakeholders is presented in sections 5.3.1-5.3.4 below.

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3.4.1 Potential co-management scheme Djibouti

CASE STUDY OF A POTENTIAL CO-MANAGEMENT SCHEME	
Mangrove forestation at Khor Angar	
<p>Four nurseries were established each containing 6,000 plants. Around 30,000 mangrove trees (<i>Avicennia marina</i> and <i>Rhizophora spp.</i>) were planted after dead trees had been cleared to restore 80 hectares.</p> <p>Each activity involved about thirty people from the local population who were employed under the cash for work system.</p> <p>The scheme does not reflect actual co-management because there is no delegation of management to particular users.</p>	   
<p>The best way to protect a natural resource is to get the local population to take responsibility for the management of the resource using principles of co-management. Unfortunately the mangrove planting scheme only presents a potential for co-management since there is no mechanism to license the right to use the mangrove to the local population.</p>	





3.4.2 Potential co-management scheme Sudan

CASE STUDY OF A POTENTIAL CO-MANAGEMENT SCHEME
Dungonab Fisheries Cooperative and Oyster Farm

The picture on the right upper box shows landing site for the **Dungonab Fisheries Cooperative** which, with the local Popular Committee, can play a substantial role in co-management of the coastal and marine biological resources in **Dungonab-Mukawar bay**.

1. The activity takes place in **Dungonab Federal Reserve**.
2. Resource used fish, primarily.
3. Resource is used in artisanal manner.
4. The members of **Dungonab Fisheries Cooperative** are using the resources as a means of livelihood.

This scheme would require a change in law so that licenses to fish could be restricted to meet particular, to be specified, co-management criteria.



The majority of **Dungonab Fisheries Cooperative** members/stakeholders expressed an interest in taking a role in the co-management of the biological resources in **Dungonab MPA** including quotas by number of fishers, species, area and time. It was indicated that all that needed was to build the capacity (organizational and management skills) and offer incentive/motivation based on a clear agreement signed between the Locality, Popular Committee and the Cooperative to give priority access to the co-operative.

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Table 10 summarises the results from interviews with 111 stakeholders from four country reports concerning significant livelihoods. 81.7% of significant livelihoods related to national fishing, 2.3% to international fishing, 4.6% to marine tourism and 11.5% to other livelihoods including Government and NGO management of coastal and marine biological resources.

Table 10: Livelihoods determined from stakeholder interviews in four PERSGA SEM participating countries.

Livelihood	Djibouti		Jordan		Saudi Arabia (a)		Sudan		Yemen		Total	
	Nos	%	Nos	%	Nos	%	Nos	%	Nos	%	Nos	%
Fishing - national	20	66.7	2	33.3			60	92.3	25	83.3	107	81.7
Fishing - international	0	0.0	0	0.0			0	0.0	3	10.0	3	2.3
Mariculture	0	0.0	0	0.0			0	0.0	0	0.0	0	0.0
Mangrove	0	0.0	0	0.0			0	0.0	0	0.0	0	0.0
Marine tourism	5	16.7	1	16.7			0	0.0	0	0.0	6	4.6
Other	5	16.7	3	50.0			5	7.7	2	6.7	15	11.5
Total	30	100	6	100			65	100	30	100	131	100

The total number of livelihoods can exceed the total number of stakeholders where stakeholders have more than one livelihood.

(a) No survey undertaken on livelihoods in Saudi Arabia

3.6 Quality of life indicators

Table 11 summarises the results from interviews of 111 stakeholders from four country reports concerning quality of life indicators. No interviews were undertaken in Saudi Arabia. The sample size is relatively limited but it is necessary to understand more about quality of life to decide what can be done to improve it.

Table 11: Quality of life determined from stakeholder interviews in four PERSGA SEM participating countries.

Indicator	Djibouti			Jordan			Saudi Arabia (a)			Sudan			Yemen		
	Int	Val	%	Int	Val	%	Int	Val	%	Int	Val	%	Int	Val	%
Refrigerators (number)	20	<1	0	6	<1	0				60	<1	95	25	<1	64
Drinking water (days' supply)	20	<1	0	6	<1	0				37	<1	21.6	25	<1	80
Primary health (km to)	20	<5	?	6	<5	100				60	<5	100	25	<4	100
Primary education (km to)	20	<5	?	6	<5	100				60	<5	100	25	<2	100
Main cooking fuel (oil – yes/no/?)	20	Yes	0	6	Yes	0				60	Yes	0	25	Yes	0
Main cooking fuel (gas – yes/no/?)	20	Yes	100	6	Yes	100				60	Yes	71.7	25	Yes	100
Main cooking fuel (wood – yes/no/?)	20	Yes	?	6	Yes	0				60	Yes	18.3	25	Yes	20
Main cooking fuel (charcoal – yes/no/?)	20	Yes	?	6	Yes	0				60	Yes	83.3	25	Yes	0
Cooking fuel (mangrove - yes/no/?)	20	Yes	5	6	Yes	0				60	Yes	5	25	Yes	24
Since ate marine animals (days)	20	<1	100	6	<1	66.7				60	<1	40	25	<1	76

Int: Number of interviewees

Val: Value of indicator

%: % of interviewees at value

(a) No survey undertaken on quality of life in Saudi Arabia

Key observations concerning quality of life are low numbers of refrigerators and water supply in Sudan and Yemen. The four country reports, where interviews took place, indicated close proximity of primary health care and education to stakeholders. However, the standard of health care and primary education is not detailed in the surveys. Gas was the dominant cooking fuel in all four countries surveyed. Charcoal was also widely used by stakeholders in Sudan. Mangrove was reported to be used very occasionally in Djibouti (5%), Sudan (5%) and Yemen (24%).

Marine animals had been eaten within the last day by all the interviewees in Djibouti (100%) and by a majority in Jordan (66.7%) and Yemen (76%). A minority (30%) had eaten marine animals within the last day amongst the Sudanese interviewees.

The Component 2 SEM National Reports for Sudan and Yemen comment on the real poverty faced by fisher communities in these countries.

4. DISCUSSION

The Component 2 SEM Country reports indicate that coastal and marine biological resources are under-exploited with potential yields estimated to be much lower than the landings. Whilst this may be the case for small, short-lived seasonal, pelagic species such as sardine it should not be assumed for long-lived species such as sharks and long-lived species that migrate to spawn such as grouper and the humphead wrasse.

The SEM Project Component 2 aims at “*Strengthening Coastal Communities*” in respect of pro-poor livelihoods that strengthen the sustainable use of coastal and marine biological resources. In the case of the SEM Project the actual pilot sites of Kamaran Island in Yemen and Donganab in Sudan are associated with coastal and marine protected areas.

A precautionary approach needs to be taken to developing pro-poor livelihoods in these areas since these areas are designated for biodiversity conservation and their use needs to meet conservation objectives. In addition there are risks to future production of coastal and marine biological resources from climate change.





The CBD “*Ecosystem Approach*”, the FAO voluntary “*Code of Conduct for Responsible Fisheries*”, the Jeddah Convention and its protocols and the SEM Project all indicate the need to delegate the management of the use of coastal and marine biological resources to the users of those resources. Whilst co-management is not explicitly identified as the tool to achieve this delegation it is implicit.

There are existing legal mechanisms in the SEM Project Countries to restrict the use of coastal and marine biological resources. Restrictions can be, and in some cases are, applied by species, by catch quantity, by area, by season, by vessel type, by gear type, and by industrial entity. However, these mechanisms are not delivered effectively because of the lack of government financial and technical resources to deliver monitoring, control and surveillance. This means that restrictions are inadequately mainstreamed and are inadequately policed so that illegal, unreported and unregulated (IUU) fishing continues. There are few incentives to obey the rules and short-term interests drive overexploitation.

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3.5.1 Stakeholder example Djibouti

Ahmed	
Fishing	
<ol style="list-style-type: none">1. Ahmed, over 50 years old.2. He lives in Khor Angar since birth.3. Fishing around the mangrove.4. He sells to wholesaler.5. If there is a co-management, he thinks that his income will increase.6. He believes that the future will be better now and he says he must put in place a co-management system.	
	
	
	
No comment.	

3.5.2 Stakeholder example Sudan

Name of the stakeholder: **Wagi Ali Mohamed**
Reef fisher

The picture on right is of **Wagi Ali Mohamed**, the **Umda** (Customary Leader) of **Mohamed-Qol**

1. **Wagi** is the community leader and at the same time a fisher and a member of **Mohamed-Qol Fisheries Cooperative**, a 62 years old male, married and father for five children (3 girls and 2 boys).
 2. **Wagi Ali** has lived in **Mohamed-Qol** for the last 25 years of his life.
 3. **Wagi Ali** is fishing for bony reef fish.
 4. Catch is sold to brokers/traders who fund the fishing trip. Part of the catch is used for household consumption.
 5. Key Livelihood Concerns are
 - 1- low prices of catch
 - 2- Limited livelihood alternatives
 - 3- Funding from traders who exploit fishers.
- His opinion on fisheries co-management is;
It is necessary to have monitoring role, so as to protect resources from foreign fishers from neighboring countries.
6. **Wagi Ali** has no concerns about the future.
 7. **Wagi Ali** is optimistic about future because many development projects have been implemented recently and changed positively the life of local people.



The stakeholder lives in **Mohamed-Qol** village, about 150 kilometers north of **Port Sudan** on the highway to **Egypt**, along the coast of **Red Sea** in **Sudan**



Although both villages, **Dungonab** and **Mohamed-Qol**, suffers limited livelihoods alternatives but the later has access to rain-fed agriculture/grazing land when it rains in winter. Ice plant will serve multi livelihood purposes (fish preservation as well as creation of new market businesses). The highway to **Egypt** also can contribute much to creation of small cross-border trade.

3.5.3 Stakeholder examples Yemen

Fahmi Hassan Mohammed Omar

Fisher, he is not part of any association

- Male, his age 35, depend on him 7 persons 4 are female and 3 are male
- He lives in Mocha City, Taiz Governorate, Republic of Yemen, (35 Year in his residence)
- He uses different type of fishes but mostly goes for emperor fish, king mackerel, trevally, lemon sweetlips and barracuda
- Key concerns about his livelihood
 - Illegal fishing by big boats,
 - He does not have any alternative livelihood, accordingly he suffers during the windy season,
 - Competition of Eritrean fishermen who come to sell their fish in the city market, which reduce the prices of local fishermen products,
 - Using illegal fishing gear (net) in a wide area without any control by the competent authorities which prevent the fishermen from fishing
- He is very pessimistic about the future specially because his economic situation and political situation of the country



The people are very poor and need urgent help since they depend only on fishing as a primary livelihood and fishing is a risky livelihood. Government should support them and provide them with suitable alternative livelihoods.

YahiaShabrur

Fisher, he is not part of any association

- Male, his age is 31, depend on him 3 members; 2 are male and 1 female
- He lives in Makram Village, Kamaran Island, Hodeida Governorate, Yemen. He spend most of his time in the sea outside the island for fishing except during the windy season he stay only in the Island
- He uses different type of fishes but mostly goes for barracuda, emperor fish and king mackerel
- Key concerns about his livelihood:
 - Availability of stock,
 - He does not have any alternative livelihood, accordingly he suffers during the windy season

He is afraid from the future because as he said there is no any hope in the horizon



He did not go to the sea because of the bad weather.



In addition to the difficulty to get enough money to the normal life from the principle livelihood, there are many other problems in the Island. The people here do not have any of the basic services including the drinking water. Accordingly the people spend most of their savings to buy drinking water. So the government and the related organizations should help the people of the island and provide them at least with the basic services.

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The option of co-management requires three legal pre-conditions if it is to be effective:-

1. the use of coastal and marine biological resources should be restricted to particular non-industrial entities (it already exists, in principle, for industrial entities);
2. industrial and non-industrial entities should contribute to the management of the resources that they use;
3. restrictions do not disadvantage pre-existing responsible traditional, artisanal and subsistence use over industrial and other non-traditional use.

None of the SEM Project Component 2 national reports was able to identify examples of operational co-management schemes. All the reports suggest that stakeholders are interested in introducing such schemes although the understanding of the nature of such schemes is poor.

It is suggested that the reason for a lack of operational co-management schemes is that there is no legal framework to meet the three preconditions described above. The Djibouti Country report indicates that there is a validated draft law pending that does support co-management. However, the validated draft law does not support co-management of non-industrial subsistence/artisanal fishing by enabling restriction in the number of fishing licenses or for the delegation of management to the restricted number of users.

All the SEM Project Component 2 national reports recommended:-

1. that PERSGA continue to provide a co-ordinating role in helping the parties to the SEM Project to process the recommendations provided in the national reports;
2. introduction of co-management as a tool for the more effective and sustainable use of coastal and marine biological resources;

Country specific recommendations are extensive and wide ranging and are not presented here.

It is suggested that it is necessary to make legislative changes to enable the implementation of co-management in the SEM Project Countries. At the very least the principle of the delegation of management to a restricted set of users and the tool of “Co-management” need to be identified in the legislation.

5. RECOMMENDATIONS

5.1 PERSGA Draft fisheries and aquaculture MoU

It is suggested that the following should be considered by the PERSGA Ministerial Council. The PERSGA draft memorandum of understanding concerning regional cooperation in management of fisheries and aquaculture in the Red Sea and Gulf of Aden, and any protocols arising out of that MoU should:

1. include a clear, objective/accountable, definition of co-management and a clear identification of the need to use co-management as a tool for delivering the sustainable use of coastal and marine biological resources within the PERSGA region (under articles 2 and 4 of the draft MoU and elsewhere);
2. signal the principal that permission to use coastal and marine biological resources should be restricted based on precautionary and evidence-based carrying capacity considerations with priority of use allocated to identified individuals or groups showing evidence of traditional, artisanal subsistence and responsible use (under Article 4 of the draft MoU and elsewhere);
3. consider the need for and, as appropriate, identify and designate areas as fisheries refugia (under Articles 2, 4 and 7 of the draft MoU and elsewhere);
4. Species and groups of animals and plants should be considered for inclusion in Annexes 1 and 2 of the 2005 “*Protocol Concerning the Conservation of Biological diversity and the Establishment of a Network of Protected Areas the Red Sea and Gulf of Aden*” (Articles 6, 12 of the draft MoU and elsewhere);
5. There should be support for the development of standards for fishing laws and regulations, a poverty index for coastal fisher communities, co-management systems, IUU, Vessel Monitoring Systems (VMS) and other monitoring, control and surveillance (MCS) systems (Articles 2, 4, 11 of the draft MoU and elsewhere);
6. Serious consideration should be given to identifying and addressing the risks of building coastal and marine biological resources dependent livelihoods, particularly those related to food security, in respect of climate change (Articles 2, 4, 8 of the draft MoU and elsewhere);
7. Once legally recognised under the Jeddah Convention any approved recommendations should be incorporated in/ adopted under, the national legislation of signatories to the Jeddah Convention (Article 19 of the draft MoU and elsewhere).

5.2 National Laws

A relevant national committee, with technical support from PERSGA, should be set up to review, revise and propose legislative changes to consider the recommendations proposed in the national reports. Particular consideration should be given to legislative changes needed to designate areas as fisheries refugia and to enable the co-management of coastal and marine biological resources.

The following legal framework is proposed to guide this revision of legislation so as to enable co-management.

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Articles	Clarification
1. Introduction	Legal referencing
Title of the Law: Co-management of coastal and marine biological resources Law	The name of the law
Date of publication	Date of publication
Date of coming into force	Date when offences are subject to
Reference	The legal reference to the law so it can be found in the gazette.
Legal basis	This should provide the parent laws the law is based on including laws specifying the responsible authorities for the fisheries, conservation, tourism, social and coastal security sectors and key fisheries, conservation, tourism, social and coastal security laws.
Amendment: The following law(s) is/are amended	Reference to any amendment of an existing law
Repeal: The following law(s) is/are repealed	Removal from the statutes of any law that is made redundant by the new law or the amendment of an existing law.
2. Objectives	Statement of objectives/purpose/principles
	The purpose of this law should be to allow the licensing authority to restrict licenses for the use of specified coastal and marine biological resources to specified licensed co-management entities with priority for allocation to entities with traditional, artisanal, subsistence and responsible use in order to ensure the sustainable use of these resources. No entity should be able to use the specified coastal and marine biological resources without a license to do so specifying the conditions of use.
3. Definitions used	Explanation of definitions
Amendment	Any revision of an existing law
Area	The area where specified coastal and marine biological resources can be extracted.
Co-management	<i>“a situation in which two or more social actors negotiate, define and guarantee amongst themselves a fair sharing of the management functions, entitlements and responsibilities for a given territory, area or set of natural re-sources”³⁴.</i>
Duration	The period of validity of the license
Eligibility	A license should only be issued to an entity either if it shows evidence of traditional, artisanal, subsistence and responsible use of the specified living resources associated with the license or if it shows that there has been no traditional and responsible use of these resources.
Entity	Any identifiable individual or group of individuals using living resources.
Fee	The fee associated with a license.
Gear	Any equipment and/or procedure associated with use.
License (co-management license).	A co-management license issued by the government executive agency responsible for living resources to a specified co-management entity for the use specified

³⁴Borrini-Feyerabend, G., Farvar, M. T., Nguingiri, J. C. & Ndangang, V. A., (2000). Co-management of Natural Resources: Organising, Negotiating and Learning-by-Doing. GTZ and IUCN, Kasperek Verlag, Heidelberg (Germany). <http://learningforsustainability.net/pubs/cmnr.htm>.

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	living resources according to a set of specified conditions.
Licensing authority	The government executive agency responsible for managing the use of living resources within and/or outside biodiversity protection areas.
Living resources (Coastal and marine biological resources)	As defined in the PERSGA PAs Protocol “includes genetic resources, organisms or parts thereof, populations, or any other biotic component of ecosystems with actual or potential value for humanity” and includes fish.
Management functions	Functions designed to mitigate/minimise the deleterious physical disturbance associated with the use of living resources.
Moratorium	Any period specified between the publication of the law and the coming into force of the law in respect of penalties for offences.
Offences	A breach of any condition of the license
Penalties	Custodial periods and fines for specified breaches.
Repeal	Removal from the statutes of any law that is made redundant by the new law or the amendment of an existing law.
Time	Calendar date and time
Transferability	A license may not be exchanged or given away.
Use	Deliberate disturbance of living resources.
Use – artisanal, subsistence	Use for social immediate welfare
Use –industrial	Use where the licensed entity is not an artisanal and/or a subsistence user.
Use – traditional	Use pre-dating the publication of this law in the official legal gazette
Validity	The period of validity of the license
Vessel	Any transportation associated with the use of living resources.
4. Regulatory matters	Explanation of regulatory text
The licensing authority for the use of living resources within biodiversity protection areas is the agency responsible for ?????	Should not specify the actual name of the agency since agencies change. Should be the agency responsible for “Environment”/“Fisheries” etc.
The licensing authority for the use of living resources outside biodiversity protection areas is the agency responsible for ?????	Should not specify the actual name of the agency since agencies change. Should be the agency responsible for “Environment”/“Fisheries” etc.
Where the use of a living resource extends between the jurisdictions of these authorities then both authorities shall issue the license in compliance with this law.	Transboundary issues
Where the use of a living resource extends internationally then the licensing authority will seek an agreement with the international party(ies) as a condition of issuing a license.	
A list of species subject to various aspects of this law are listed by Annex.	
A license is necessary for an entity to use the living resources specified in Annexes 2 and 3 of this law.	
Only the licensing authority(ies) may issue licenses for the use of the specified living resources listed in Annexes 2 and 3 to named entities according to a set of conditions on the basis that such issuance and associated conditions will ensure that the carrying capacity of those living resources is not exceeded on	

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precautionary and evidence based grounds.	
The licensing authority may not issue licenses for use when such use is precluded by other legislation.	

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Entities showing evidence of traditional, artisanal, subsistence and responsible use of specified living resources should have the priority for licenses to use these resources.	
A license is not transferable.	
The license shall have a unique reference number and will be signed and dated by the licensing authority and the entity having the license.	
The license shall indicate the application and operating fee.	
The license shall specify the licensed entity, the living resources that can be used, the size and sexual state of these living resources, the area and time of use, the type and number of gear and vessel, the quantity to be used, the duration of the license and the management functions assigned to the entity.	
5. Fees	Explanation of fees
The fees payable for a license shall be publically disclosed.	
There shall be no fee for a license for traditional, artisanal and subsistence use.	
The fee for industrial use shall comprise an application fee and an operating fee.	
The application fee will be ????? and will not be refundable.	
The operating fee will be paid annually in advance and will be negotiated.	
6. Offences	Explanation of Offences
Any entity who is in breach of the conditions of a license is committing an offence.	
Any entity using living resources without a license is committing an offence.	
7. Penalties	Explanation of custodial & financial penalties
First offence - retention of license, gear and vessel for ?? months - fine to vessel owner of ?? - fine to buyer of ?? - fine to fisher of ??	
Second offence or failure to meet penalty of first offence - retention of license, gear and vessel for ?? months - fine to vessel owner of ??/?? days work in the community - fine to buyer of ??/?? days work in the community - fine to fisher of ??/?? days work in the community	
Third offence/ failure to meet penalty of first offence - retention of license, gear and vessel for ?? months - custodial sentence to owner of ?? months - custodial sentence to buyer of ?? months - custodial sentence to fisher of ?? months	
8. Process for amendment	How the law can be amended
	Details of how the law can be amended
9. Signature and date	Signature and date
Authority to sign, signature and date of entry into the gazette	

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Annex 1: List of species for which extractive use is banned	Annex 1
1. Species....	The list should comprise all species for which extraction is banned
Annex 2: List of species for which extractive use is subject to this law	Annex 2
1. Species....	The list should comprise all species (wildcaught and mariculture) for which extractive,use is subject to this law (for example oyster, mangrove, grouper, sea-cucumber, trochus, etc).
Annex 3: List of species for which non-extractive use is subject to this law	Annex 3
1. Species....	For example nature tourism (shark/whale watching etc)

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APPENDIX I: CONSULTANT TERMS OF REFERENCE

Regional Organization for the Conservation of Environment of the Red Sea and Gulf of Aden (PERSGA)

Terms of Reference for INTERNATIONAL CONSULTANT FOR REVIEWING LEGISLATIONS, STRATEGIES, POLICIES AND MANAGEMENT PLANS FOR FISHERIES SECTORS IN PERSGA COUNTRIES

Under the Project Strategic Ecosystem Management of the Red Sea and Gulf of Aden

1. Background

The announced consultancy service is needed for execution of the Project Strategic Ecosystem Management of the Red Sea and Gulf of Aden referred to hereafter as the Project or “SEM”. The Project is GEF financed, implemented by the World Bank and executed by PERSGA. The Project development objective is to improve management of marine resources in the Red Sea and Gulf of Aden in selected MPAs building on resource protection, incentive systems for communities and the harmonization of the knowledge base of marine resources between PERSGA member countries. This will be achieved through institutional Technical Assistance with onground activities through application of Ecosystem Based Management principles. The Project contains four components, which are tailored to the most urgent country needs and preparedness at the local level. Two of the SEM components are localized in execution but open in knowledge sharing to all PERSGA countries. The two other components are an overarching harmonizing regional component and a management component. The four components are briefly described below.

Component 1: Strengthening the principles of marine managed areas through stakeholder driven MPA implementation

This component will select Marine Protected Areas as pilots to serve as Marine Managed Areas to include zonation and multiple uses consistent with local community needs and benefits using a participatory, community-based process. Activities within this component include the provision of training and demonstrations necessary to implement, use and update marine areas management plans in cooperation with national implementing agencies in the PERSGA network. This component also focuses on improving the capacity of member countries to share information and select the most appropriate marine protected/managed area models (MPAs/MMAs) based on current capacity and area(s) of comparative advantage and environmental features. It will also train community members in rights-based MPA co-management to be able to effectively review, update and implement marine protection and management plans, and transition to multiple use MMAs.

Through this Component, PERSGA will strengthen its regional MPA network and also support member countries in bringing awareness of more holistic ecosystem based approaches whereby local communities could participate in balance resourcing exploitation with sustainability and help

provide stronger stewardship of marine resources adjacent to them. All PERSGA member countries will be invited to participate in training at pilot sites.

Component 2: Strengthening coastal communities using incentives approach to improve fisheries management and achieve other marine resource benefits

Component two will provide institutional and technical capacity needed for communities to use and protect living marine resources to increase net benefits derived from the resources in a sustainable manner. The capacity of community and user group will be built to understand trade-offs associated with development and the costs and benefits to the community, and to organize as user groups around these uses and their roles in rights-based co-management of fishery resource, in connection to their correlated roles identified under component 1. They will also be trained in the monitoring of the uses and their impacts on the resources, particularly on fisheries to support informed decisions by communities in co-management. Through a community-driven process, the selected coastal communities will receive support to identify and develop sub-projects for alternative livelihood initiatives to reduce pressure on the resources and improve benefits to the community members.

Ongoing activities will be developed by local communities and congruent with national priorities. Consultants or NGOs experienced in community driven fisheries and marine resource management will help facilitate community capacity building for MPA management engagement and development of sub projects. Potential subprojects could include, but are not limited to some mentioned during consultations: fish processing activities which involves the preparation of fish for direct consumption or for preservation; small scale aquaculture activities for production of pearl shells in Sudan; designation of hiking trails/ camping sites for eco-tourism within the National Parks- this is relevant to site selection in critical habitats; activity supporting recreational fishing/ snorkeling etc. for tourism purposes: through tent for gathering, jetty and boats; structure for visitor center built from natural materials; workshop for women group for producing and selling artisanal products - establish structure from natural materials; enabling tour guiding through licensing and training, potentially providing boats; training and certifying community members as rangers

Component 3: Regional Environmental and Socioeconomic Monitoring Supporting Ecosystem Based Management (EBM) and Community Benefits

This component will build on ongoing monitoring activities and help in standardizing monitoring variables and approach between the participating countries, making data comparable and sharable through the strengthening of a regional network and database. It will support the expansion of monitoring to include socio-economic data, especially for fishery and MPA communities. Capacity building will also be strengthened through workshops and knowledge exchanges.

Specific sites selected by the countries will be monitored during the project, which will include MPAs and MMAs within the regional network and will be geared to enhance the capacity of PERSGA and member countries in concert with their communities. This presents an opportunity to leverage the latest knowledge and monitoring indicators in fisheries management to engage in supra-regional knowledge sharing on fisheries and marine resources monitoring. Monitoring of baseline data and

other variables between MPAs and the pilot MMAs under components 1&2 will allow for comparison between the outcomes of the project intervention in the selected sites versus no intervention. This will provide a blue print for lessons learned from applying the EBM and co-management approach in the Red Sea and Gulf of Aden which can be scaled up to the entire regional MPA network. It will also provide an insight on environmental and socioeconomic impacts of neighbouring coastal activities

Component 4: Project Management

This component will support the GEF project with technical, administration, procurement, financial management, project monitoring and evaluation and environmental and social impact monitoring. This includes cost of training of PERSGA and at the local project management level in the administrative, environmental and social aspects mentioned. The project will be executed by PERSGA, and will comply with GEF IW and World Bank reporting requirements (e.g. providing a GEF-IW webpage consistent with IW LEARN), provide IW Experience Notes, submit a GEF IW tracking tool at project start, provide for routine M&E processes, external Mid-Term and Terminal Evaluations, and project closure, provide lessons learned and other project information to IW-LEARN, and attend GEF IW Biennial Conferences.

2. Consultancy

The present ToR is for a consultancy that will be carried out under component 2. This component will be implemented through the following activities:

- Build capacity in communities to understand the current uses and resource benefits, and how these are distributed within the community, including establishing baseline of status of the marine environment;
- Build capacity of user groups including fisheries cooperatives in monitoring their resource uses and impacts; establish a community monitoring manual and follow up
- Support identification and planning of sustainable economic activities of marine resources and demonstrate small scale, low impact alternative livelihood sub-projects that are compliant with all environmental and social safeguards and upon which the community has reached consensus.
- Strengthen regional community participation through education and knowledge sharing through study tours, to share pilots on rights and responsibilities to improve community compliance and build ownership for resource protection and sustainability, as well as the implementation of monitoring, control and surveillance systems for fisheries co-management.

3. Tasks and Responsibilities of the Consultant

In this context the consultant will work directly with the Project Coordination Unit “PCU” and in close collaboration with the national project team and local community, the consultant will collaborate with a regional team to review legislations, strategies, policies and management plans for the fisheries sectors to introduce and facilitate reforms required to adopt ecosystem based and co-management approaches to fishery management and aquaculture development in the Region. Specific tasks to be carried out by the consultant include:

- Review national/provincial legislations, strategies, policies and management for fisheries and aquaculture sector, in order to identify gaps / barriers to implement ecosystem based approaches for fisheries management and development of aquaculture. The review process

should involve wide consultation with stakeholders at local and national levels to identify such gaps / barriers and suggest detailed and specific amendments addressing them, such as policies, regulations and practices enabling multiple objectives- participatory management approach, user group responsibilities, interaction with other sectors, adaptive systems, extended knowledge, incentives, mutual transparency, EAF EAA based fisheries monitoring, control and surveillance, etc.

- Develop a detailed report on the assessments / reviews undertaken, including suggested amendments together with guidelines and roadmap to mainstream them in national legislations and management policies and planning for marine fisheries and aquaculture sectors.
- Provide technical backstopping for national/ local counterparts to include amendments and take on concrete proposals for revised laws/ policies/ management procedures, particularly at the project pilot sites as demonstration activities for the region. This will include, among others, facilitation of capacity building and awareness workshops, and provision of technical assistance during consultation meetings for planners, managers, user groups decision makers and other relevant stakeholders
- The assessment / review should include a maximum level of stakeholder participation and consultations to identify relevant existing information as well as the interests, priorities and responsibilities of different stakeholder groups or institutions. Therefore, the consultant must carry out a considerable part of the work in-situ through visits to the region including PERSGA HQ and member states, particularly the project pilot sites, and acts as a technical resource person in national and regional workshops to be organized for the purpose of this consultancy.

4. Key Outputs and Tentative Timing

Output 1: Inception report: Detailed work plan, methodology, timeline	1 month from contract
Output 2: Data and information collection: in situ visits, from the line ministries, departments; stakeholder consultation workshops, review documents, reports, existing information, etc.	5 months from contract
Output 3: Progress Reports	Every three months
Output 4: Draft assessment Report: Detailed report of the review assessments for each member state	7 months from contract
Output 5: Demonstration activities: concrete proposals of revised/ amended laws, strategies, policies and management practices at two, along with demonstrated steps towards their adoption at pilot sites	10 months from contract
Output 6: Final Consultancy Report compiling the assessment outputs and including recommendations for suggested legislative and policy amendments.	12 months from contract

5. Duty station and duration

Duty station: Home based with in-situ field visits to the region for consultation and provision of technical assistance. The consultancy will be completed over one year, out of which the consultant is expected to utilize about 40 actual working days.

6. Qualification, Skills and Experience

The following qualifications and experience requirements must be met by the consultant:

- A post graduate qualification (PhD) in fisheries management or any other relevant discipline
- Advanced knowledge of tools and approaches for fisheries and aquaculture management, evaluation of performance, progress and impacts; and good knowledge of the concept, principles and methodologies of ecosystem approach to fisheries management
- Proven experience in assessment/ evaluation of fisheries management and aquaculture development, including laws, strategies, policies and management measures and practices for fisheries and aquaculture sectors
- Excellent background knowledge on international and regional legislations, framework policies, technical guidelines, agreements and initiatives addressing living marine resources, and conservation/ management measures
- Proven experience in similar consultancy works at the international and regional organizations level, and ability to produce outputs at international standards
- Familiarity/ knowledge with the status of fishery, issues and concerns in Red Sea and Gulf of Aden region;
- Fluency in English is mandatory, adequate proficiency in Arabic and French would be an advantage
- Highly self-motivated and able to work independently, as well as good interaction with regional/ national teams and counterparts.

7. Type of contract and payment

This contract falls under short-term consultant category system of PERGSA. Payment will be on a lump sum and installment basis as specified in the contract. Consultancy fees will be calculated on the basis of actual working days utilized by the consultant during the contract period. PERSGA will additionally:

- Cover travel costs of the consultant's planned missions to the region/project sites, including economy class ticket and Daily Subsistence Allowance according to PERSGA regulations.
- Assist with obtaining entry visa
- Assist with coordination of the consultant's hotel reservation, meetings, workshops through the national coordinator and PERSGA Focal Point in the destination country.

Qualified candidates are kindly requested to send their CV or Team Profile along with a cover letter to PERSGA Headquarters in Jeddah, Kingdom of Saudi Arabia, by email to projects@persga.org.

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APPENDIX II: CONSULTANT ITINERARY

Date	Location	Activity and key persons met
31/08/14-04/09/14	Aqaba, Jordan	Inception workshop
08/11/14-12/11/14	Jeddah, Saudi Arabia	Regional workshop
31/01/15-05/02/15	Red Sea State, Sudan	National workshop
02/05/15-08/05/15	Jeddah, Saudi Arabia	Regional workshop

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