



الهيئة الإقليمية للمحافظة على
بيئة البحر الأحمر وخليج عدن

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

Science Based Management: Best Practice in the Red Sea and Gulf of Aden (PERSGA Region)

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OVERVIEW

❑ Background to PERSGA Region

Uniqueness and significance, resources, issues and concerns, evolution of PERSGA

❑ Science based reflection in regional legislation, policies and Programs

Convention and regional protocols, Regional Action Plan, TDA , SAP, PERSGA Specialized Regional Programs, SEM , MPAs assessment- planning, and networking

❑ Examples of science based approach and practices (place)

Standard Surveys Methods for Key Habitats and Species

Regional and National Habitat Conservation Plans (RAPs, NAPs)

SOMER Process

PERSGA Forum of Marine Academic and Research Institutes (MARI-RSGA)

Environmental Awareness and Education

On-the-ground Program



PERSGA Region: Distinctive Features and Major Concerns

Red Sea is the warmest among the world's seas

Recent formation, 27 million years (young sea) with unique geological characteristics

Arid area, high evaporation, high salinity, high transparency (no rivers)

Optimum conditions for coral; extremely rich coral dependent life (coral sea)

Unique biodiversity and high endemism (around 30%)

Important for marine research (climate change history/trends, genetic resources)

Important route for global maritime transport (marine pollution risk)

Fast coastal development (pollution from LBAs)

Semi-enclosed, sensitive to pollution (Special Area under MARPOL)

Oligotrophic water (sensitive to overexploitation); highly diverse but low abundances



The Red Sea is Rich in Key Tropical Ecosystems

Salt marshes



Coral reefs



Seagrass beds



Mangroves



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High species richness in various groups

Coral reef: ≈ 300 species

Echinoderms: ≈ 170 species

Decapods: ≈ 130 species



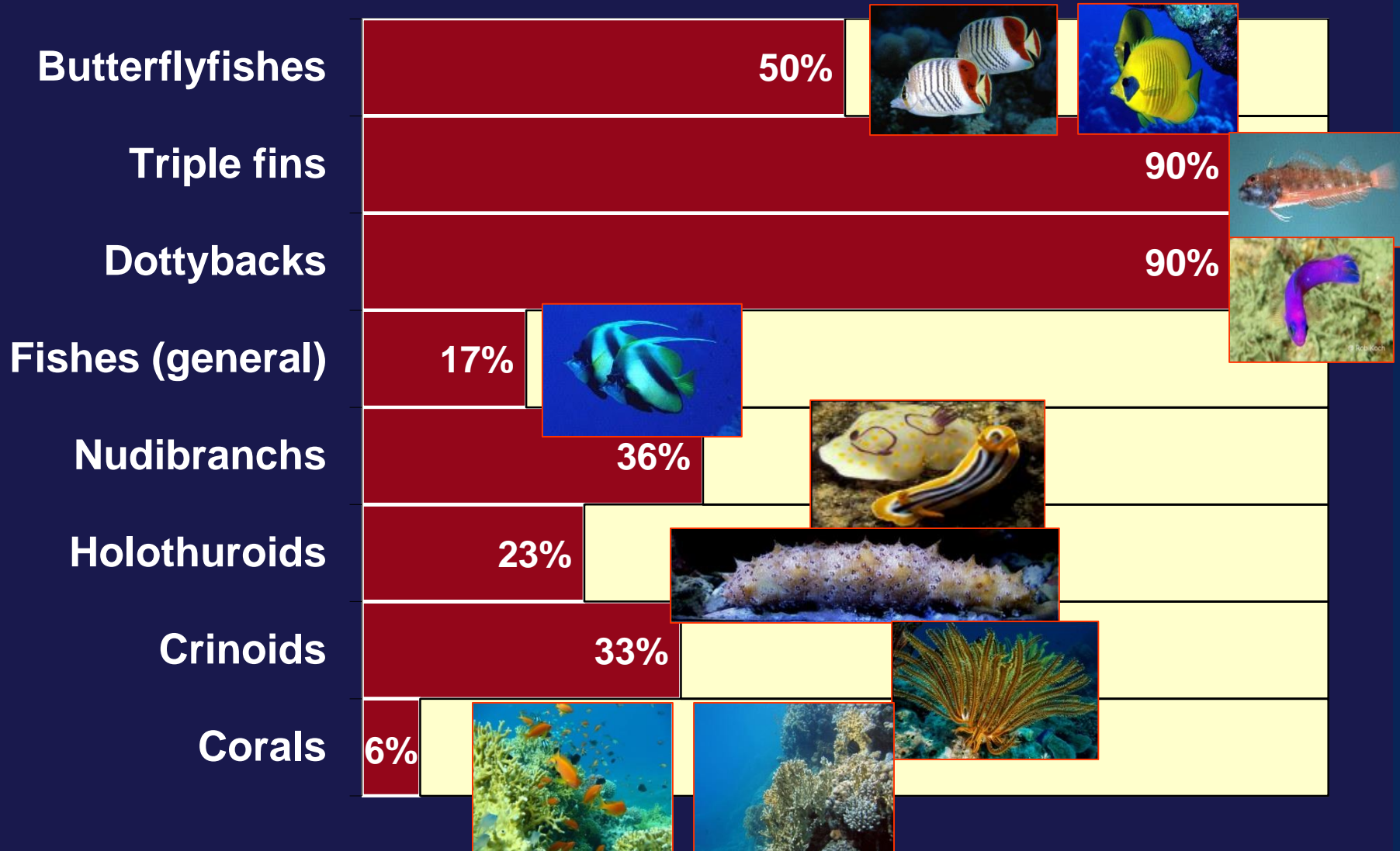
Polychaetes: Red Sea ≈ 567 species

in comparison: Arabian Sea ≈ 141 species

Arabian Gulf ≈ 231 species



High ratio of endemic species in the Red Sea: Examples



Percentage endemic species in the group (Red Sea)

Red Sea coasts: extensive dunes and beaches

- ❑ Highly pristine and clean along most of its coasts



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

PERSGA started as a collaborative scientific program in the 1970s (under auspices of ALECSO)

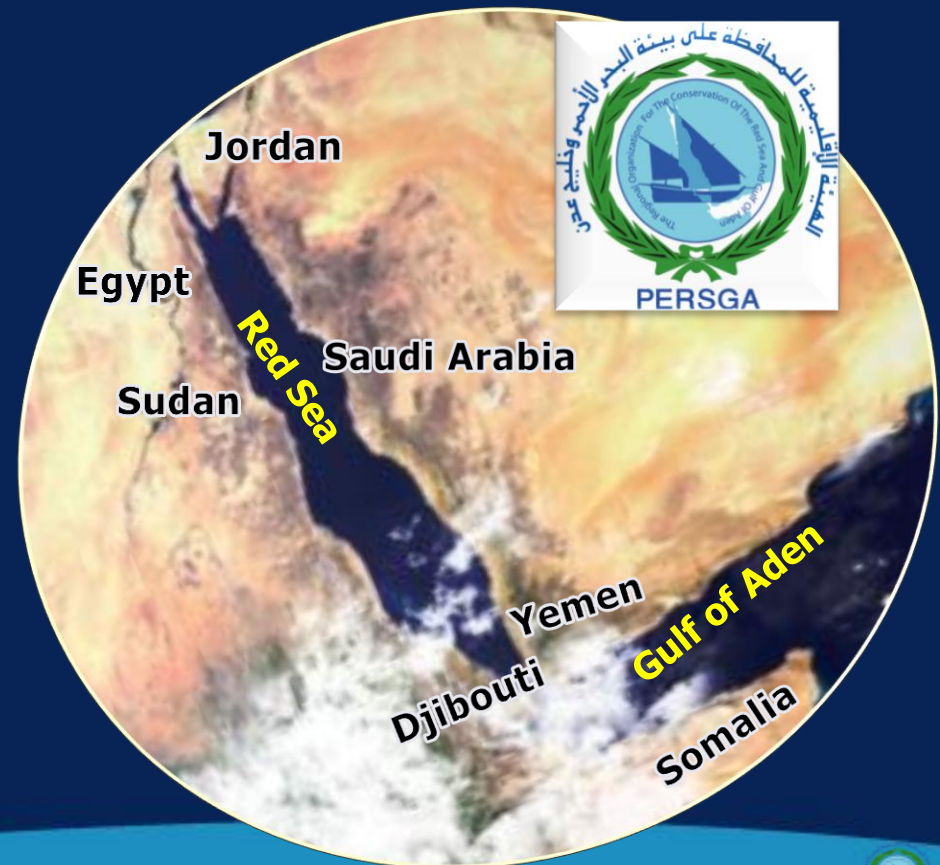
Legal base (Jeddah Convention and RAP) adopted in 1982

Developed into an intergovernmental organization dedicated for conservation of marine environment in 1995

GEF support carried TDA carried out in 1996/1997 (Extensive assessments)

SAP implemented in 1999-2004 focusing on 6 thematic components:

- 1) Reduction of pollution risks from navigation
- 2) Marine Protected Areas
- 3) Key habitats and biodiversity
- 4) Management of Living Marine Resources
- 5) Coastal Zone Management
- 6) Environment awareness & Education



Regional Action Plan (1982) Major Objectives

I) Assessment of Coastal-Marine environment

II) Guidelines for Sustainable Resource Management

III) Legal Base for Cooperative Efforts

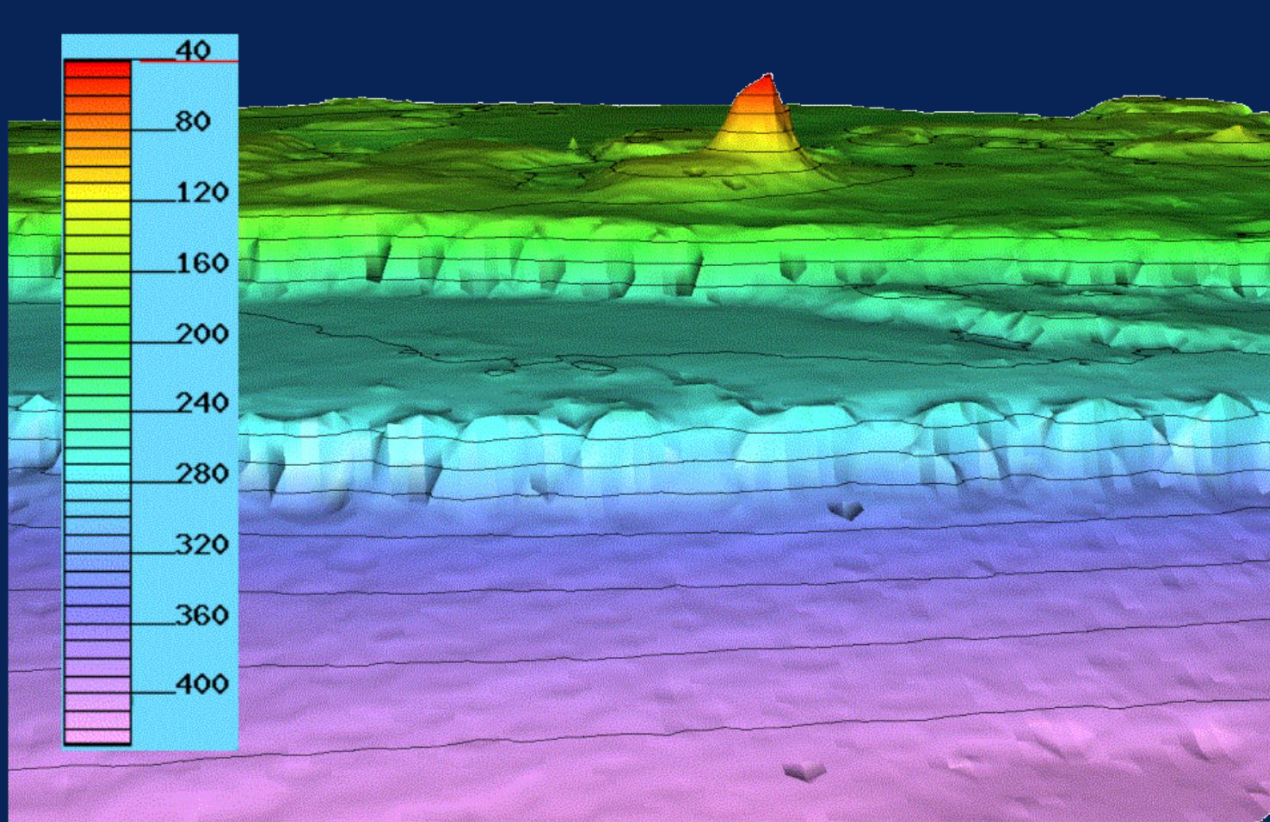
IV) Support Institutional Mechanism



Science based practice: Examples from PERSGA SAP

Hydrographic Survey - Southern Red Sea

- Revealed “Avocet Rock” showing depths

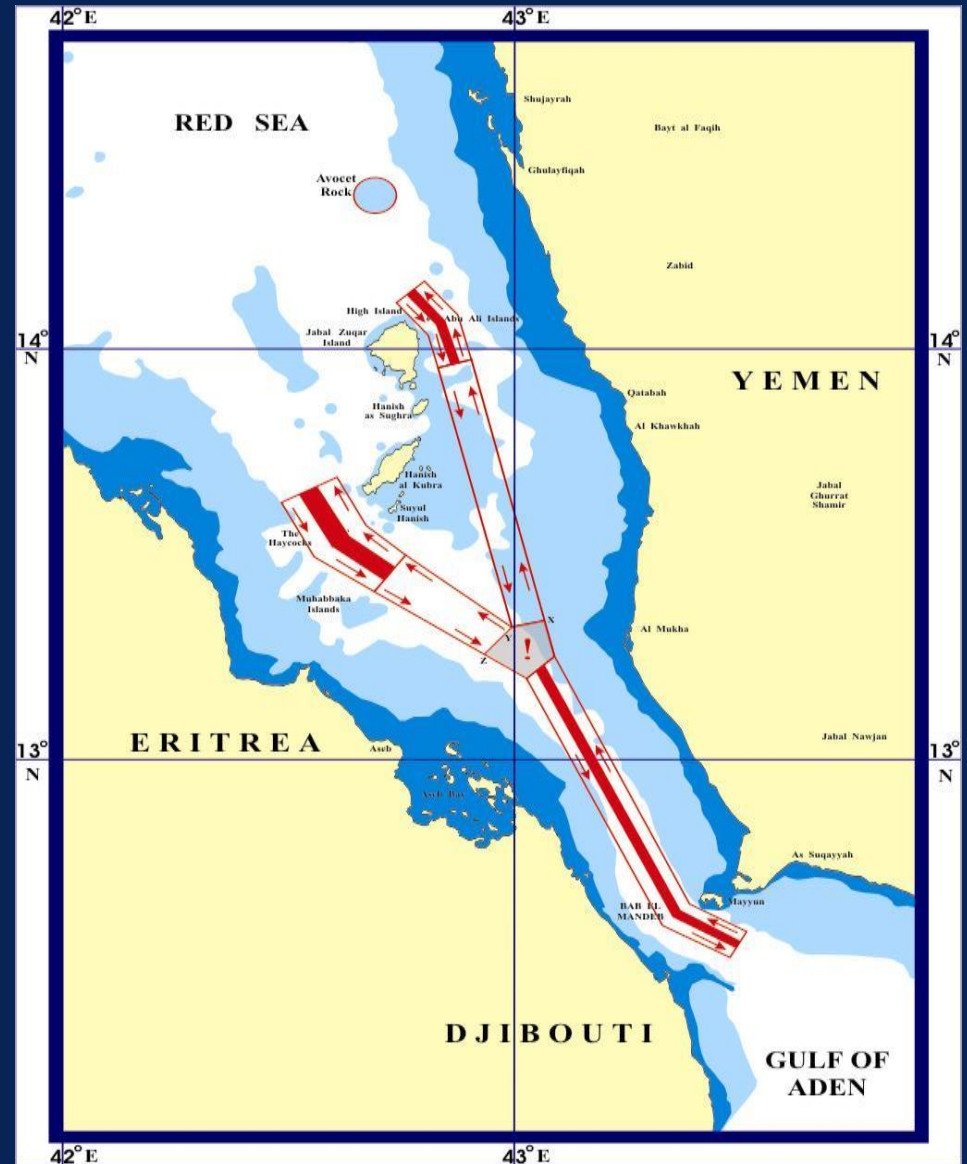


A new traffic Separation Scheme- Southern Red Sea

(adopted by IMO)



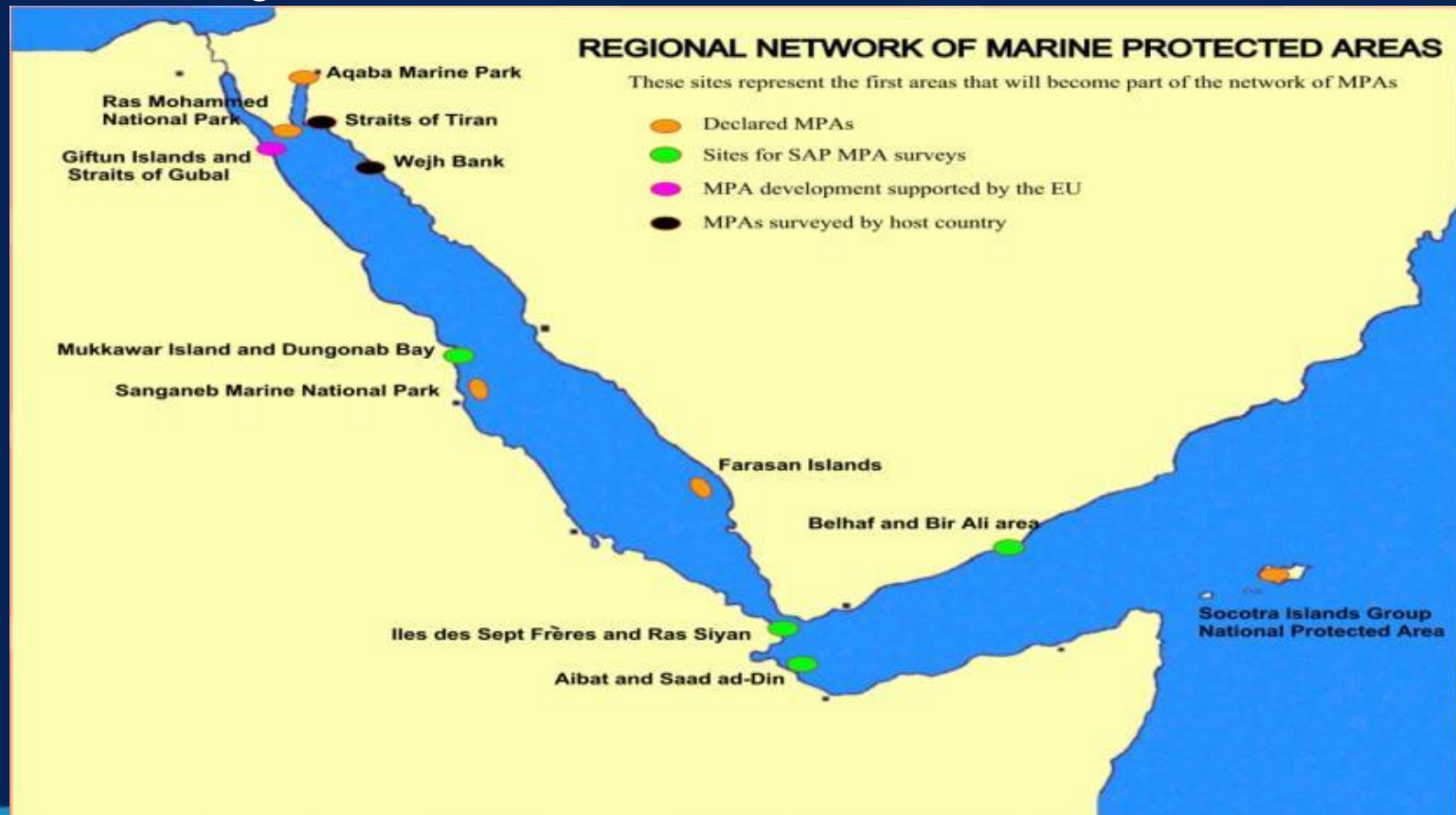
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Science based practice: Examples from PERSGA SAP

Establishment of Regional MPAs Network

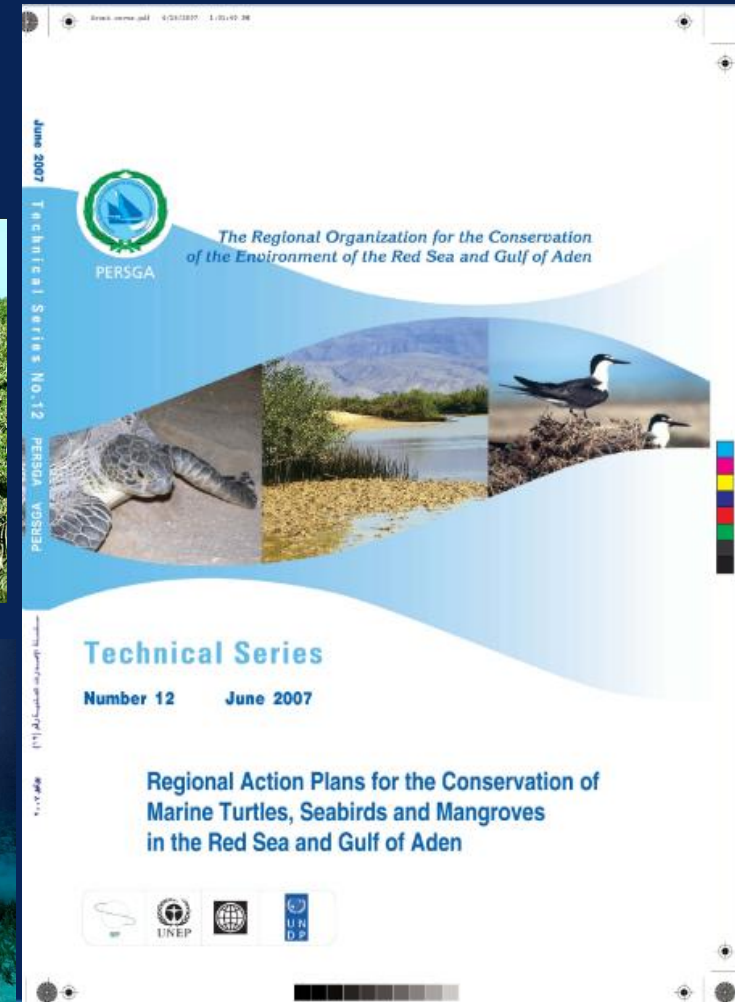
- ❑ Assessments of the key sites, importance for marine biodiversity
- ❑ Develop new MPAs Master Plans, and a Regional Network Plan
- ❑ Adoption of new Protocol on “PAs Network Establishment and Biodiversity Conservation (2005)
- ❑ Three MPAs (Socotra, Dungonab Bay & Senganeeb) inscribed as UNESCO Natural Heritage Sites



Science based practice: Examples from PERSGA SAP

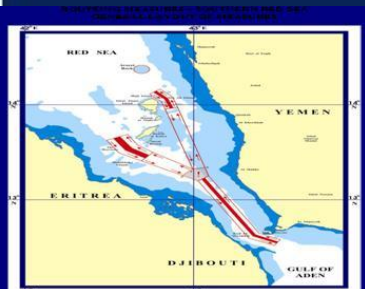
Regional Action Plans: Specific Key Habitats and Species

- ❑ Regional Standard Survey Methods (SSMs) and Specific RAPs for Key Habitats and Species: Mangroves, Coral Reefs, Seagrass Beds, Elasmobranchs, Marine Turtles, Seabirds and Marine Mammals
- ❑ Regional Monitoring Program for Key Habitats and Species of the region



Science based practice: Post SAP, and SEM Project

Established Specialized Programs



- ❑ Living Marine Resources Program
- ❑ Biodiversity-MPAs Network Program
- ❑ Regional Monitoring Program
- ❑ Land-Based Activities Program
- ❑ PERSGA/ EMARSGA Centre (Marine Poll)
- ❑ Climate Change

- ❑ Environmental Education and Awareness
- ❑ Annual Training Program: Capacity Building
- ❑ PERSGA Information System
- ❑ Ongoing Activities Program: Demo Projects



Red Sea Strategic Ecosystem Management (SEM) Project:

Component (1) Main Interventions

Build the capacity of community stakeholders and institutions involved in MPAs participatory management



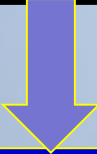
Update master zoning plans with community and other stakeholder inputs




Develop a series of engagements/ exchanges among the Regional MPAs Network




Component (2) Main Interventions



Review fishery legislation policy for coherence with EBM implementation



Capacity building for Application of EBM in fishery management and community-based alternative livelihood options in MPAs



Support identification and execution of demo livelihood subprojects to reduce pressure on over-exploited resources

Focus on EBM and Co-management

Principles based on:

- CBD (12 EA principles)
- Code of Conduct for Responsible fisheries, CCRF (19 principles)

Livelihood Selection: Compliance with Principles of Ecosystem Approach

SEM guidelines based on CBD EA principles

#	Principle		SEM Clarification
1	Public participation		Public participation underpinning the livelihood.
2	Delegation of management		Management of use by the user.
3	Transboundary effects		Livelihood takes note of transboundary effects.
4	Economic context		Livelihood secures employment and wealth particularly in vulnerable and poorly represented groups.
5	Conservation/sustainable use		Livelihood and the biological resources that support it are sustained.
6	Carrying capacity		Livelihood operates within the carrying-capacity of the biological resources that sustain it.
7	Spatial and temporal		Livelihood operates within objective spatial and temporal boundaries.
8	Long-term management		The livelihood operates in the context of long-term management.
9	Adaptive management		Livelihood can continue when subject to adaptive management (is adaptive and resilient).
10	Sustainable development		Livelihood supports sustainable development particularly in vulnerable and poorly represented groups.
11	Evidence based		Livelihood is knowledge based and is an extension of traditional knowledge/use
12	Participatory		As for principle 1.

Demo Projects for Alternative Livelihood and assessment studies

- ✓ Diversify income from LMR exploitation, emphasizing non-extractive activities, such as ecotourism
- ✓ Improve supply and value chains of artisanal fishery
- ✓ Protect spawning seasons/habitats, decrease pressure on overexploited- to allow restoring declining fisheries
- ✓ Enact the role of Co-management
- ✓ Development, Implementation and Monitoring of ESMPs for subprojects

Red Sea and Gulf of Aden Strategic Ecosystem Management (SEM) Project

Protection of spawning aggregations and sites for Nagel Fish (*Plectropomus spp.*) at Dungonab Bay MPA

- ❑ Nagel fishes represent the topmost commercially important species in the area.
- ❑ Assessments conducted in 2016-2017. Final report was available in February 2018
- ❑ Spawning sites and season defined and considered in the MPA zoning plan.
- ❑ Results used for regulating catch season and establish fish *refugia* in consensus with Fishers to protect the Nagel spawning in the MPA.



Red Sea and Gulf of Aden Strategic Ecosystem Management (SEM) Project

**Clean Energy for fishers and touristic villages in MPAs:
Qula'an eco Village, Wadi el Gemal National Park, Egypt
Dungonab-Bay and Mukawar Island National Park, Sudan**



Red Sea and Gulf of Aden Strategic Ecosystem Management (SEM) Project



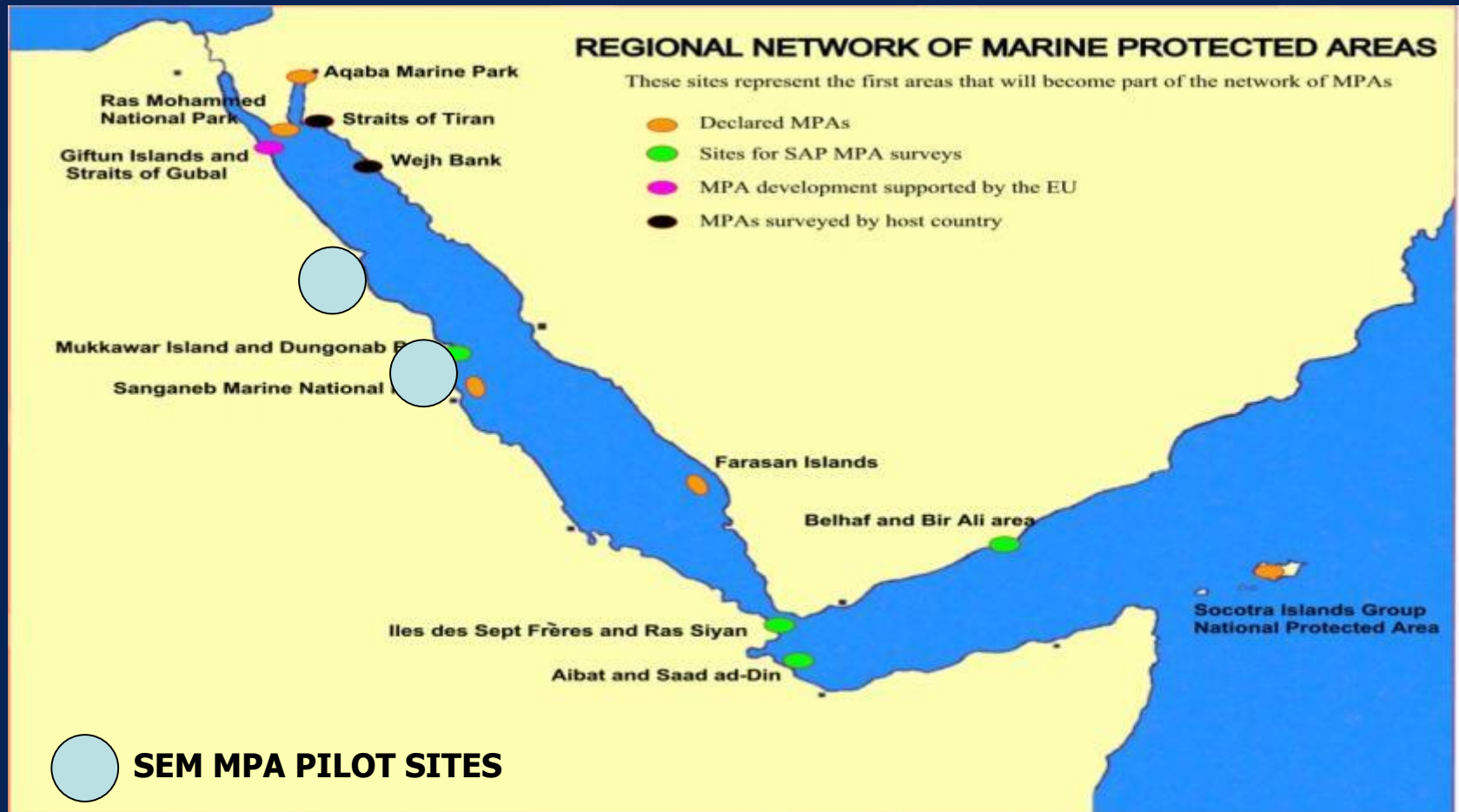
Enhance Income Generation of Fishers from Ecotourism (Non-extractive use)

- ❑ DMMNP, Sudan
- ❑ WGNP, Egypt
- ❑ Mushi and Maskali Islands MPA, Djibouti



Enabling Women's Economic Empowerment in MPA Pilot Sites

- ❑ Wadi el Gemal-Hamata National Park (Egypt)
- ❑ Dugnonab Bay-Mukkawar island Marine National Park (Sudan)



Red Sea and Gulf of Aden Strategic Ecosystem Management (SEM) Project

Wadi el Gemal NP (Egypt) Operation of Women Centre for knitting and embroidery of traditional stuffs at AbuGhoson village,

- ❑ Provided equipment and training to women to operate the centre
- ❑ Direct beneficiaries: around 70 women and their families
- ❑ Inaugurated since January 2018



Red Sea and Gulf of Aden Strategic Ecosystem Management (SEM) Project

DMMNP (Sudan) income generation from bakery products and dairy goats in Dungonab Bay MPA

- ❑ The project provides equipment, inputs and training for women to establish bakery business and milk production from goats, based on women centers in two villages.
- ❑ Direct beneficiaries: 70 women and their households (around 350 people)
- ❑ Inaugurated in December 2017



**Djibouti: Mouche Island MPA Fishermen Center,
Organization and Participation in the MPA Conservation
and monitoring activities**









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Thank You...