Fish and Fisheries of the Bay of Bengal Large Marine Ecosystem

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• Fish and fisheries:
  o Some BOB characteristics and issues
  o Project interventions and results to date
  o Planned SAP implementation steps in the area of “marine living resources”
Bay of Bengal Large Marine Ecosystem Project

Some Facts
- 8 countries
- 6.2 million km²
- 450 million people affected

Transboundary issues
- overexploitation of fish stocks
- habitat degradation
- land based pollution
Two major outputs

1. A Transboundary Diagnostic Analysis - TDA
   - A report on the major transboundary issues and their causes

2. A Strategic Action Programme - SAP
   - A (strategic action) plan for addressing the major transboundary issues and their causes
Expected Outcomes of the BOBLME Project

• Improved governance of fisheries and environment
• More effective regional cooperation
• Enhanced knowledge base
• Capacity development
• Implementation of the Ecosystem Approach to Fisheries (EAF) management
  ➢ Healthier habitats and ecosystems, sustainable fisheries
Bay of Bengal LME: fisheries characteristics and issues

- Provides food for approx. 400 million people
- Produces 4% of the value of the world’s catch (US$ 4 billion)
- Annual production 6 million tons
- Fisheries livelihoods for 4.5 million people
- Approx 2.2 million fishers
- Approx. 460,000 fishing crafts
Bay of Bengal LME: fisheries characteristics and issues

- Declining fish availability; reduced CPUE
- Changing species composition
- High proportion of juveniles in catches and landings
- Changes in biodiversity, including ETP species
- Shared stocks; fishing overlaps national jurisdictions; difficulties in implementing fisheries management;
- Excessive effort; destructive methods; unselective gear; IUU
- Open access; emphasis on increased production; inappropriate subsidies; increased consumer demand; weak MCS and enforcement
BOBLME Project: interventions and achievements (fish and fisheries)

- Genetic stock structure identification (Indian mackerel)
- Stock assessment (hilsa)
- Fisheries advisories (hilsa, Indian mackerel) and RFMAC
- Fisheries statistics review and improvement (with IOTC and SEAFDEC)
- NPOA Sharks and supporting actions (framework RPOA)
- Review of fisheries (and marine environment) policies
- Collaboration with FAO and APFIC to promote sustainable fisheries
BOBLME Project: interventions and achievements (fish and fisheries)

- RV Dr Fridtjof Nansen survey Myanmar Nov-Dec. 2013
- Assessment of migratory and transboundary fishing
- Assessment and economic valuation of IUU impacts
- Catch reconstructions (with SAUP-UBC)
- Assessment of performance in fisheries management (with SAUP-UBC)
- EAFM training course (with NOAA and partners)
- Training in stock assessment, co-management, data collection and analysis, socio-economic monitoring (SocMon), CCRF implementation
BOBLME SAP Implementation: selected planned interventions (fisheries)

**Overall SAP Vision:**

A healthy ecosystem and sustainable use of marine living resources for the benefit of the people and countries of the Bay of Bengal LME

**SAP Objective (EcoQO)**

Fisheries and other marine living resources are restored and managed sustainably

**Objectives:**

- Restore fishery resources that have declined
- Restore and maintain species composition
- Reduce the proportion of juvenile fish caught and/or retained
- Restore biodiversity status level of 1980 by 2020
Regional SAP Actions

• Institutional arrangements; legal and policy reforms
• Management measures
• Knowledge strengthening, awareness and communication
• Human capacity development
Regional SAP Actions

- Institutional arrangements; legal and policy reforms
  - RPOA-IUU
  - Harmonize legislative framework on ETP species
  - Regional arrangements and networks on fisheries management and conservation of biodiversity (ETP)
  - Consultative fora with environmental and conservation groups (NGOs)
  - Harmonization of regulations and management measures for transboundary species
Regional SAP Actions

- Management measures
  - Develop and implement RPOA (and NPOAs) on ETP species
  - Regional network on monitoring of ETP species
  - Strengthen MCS systems and develop MCS network
  - Address trade barriers (on high value exported species) at regional level
  - Coordinated interventions on incentives for sustainable fishing, use of bycatch reduction devices, promotion of fuel efficiency and reduction of carbon dioxide emissions, observer systems, and traceability of traded products
Regional SAP actions

- Knowledge strengthening, awareness and communication
  - Regionally coordinated awareness programme
  - Compilation of historical and baseline data and information for the SAP’s ecosystem health indicators for MLR
  - Improving understanding of the movement of ETP species
  - Collaborative assessment of transboundary species
  - Sharing network for regional fisheries data and information
  - Coordinated interventions on Understanding market chain of juvenile fish landed, economic losses caused by fisheries mortality of juvenile fish, strengthening data collection and analysis on ETP
Regional SAP actions

• Human capacity development
  o Deliver training on EAFM coordinated at the regional level
  o Deliver training on fisheries and ETP data collection, analysis, and management
  o Deliver training on science communication
  o Coordinated capacity development on Stock assessment, ecosystem modelling, how to avoid capture and handle release of captured ETP species
National SAP actions (selected)

- Arrangements for better in-country cooperation in the management of fish stocks
- Incorporation of EAF principles and climate change adaptation in policies and plans
- Involve fisher organizations in policy formulation
- Strengthen legislation on ETP species and biodiversity conservation
- Promote implementation of EAFM
- Implement licensing systems, spatial approaches to fisheries management, gear regulations
- Strengthen co-management of selected fisheries and fisheries compliance units
- Provide incentives for sustainable fishing and reduce inappropriate subsidies
National SAP actions (selected)

- National awareness programmes on MLR and responsible fisheries
- Strengthen collection and analysis of fisheries data and information
- Disseminate information on climate change impact, adaptation and mitigation
- Improve understanding on the movement, distribution and habitats of ETP species
- Develop and implement national educational programmes on MLR management and responsible fisheries
- Conduct training on EAFM, data collection and analysis, stock assessment, research management, stock enhancement
- Develop expertise on ecosystem modeling, climate change adaptation, fisheries management enforcement, taxonomy, ecosystem health and biodiversity indicators
Complementary activities under the SAP

Productivity

• Sea surface temperature monitoring
• Monitoring of primary productivity / chlorophyll a
• Improve understanding of biogeochemistry, in particular ocean acidification and global warming
• Collaborate with and support IOGOOS, SIBER, IIOE-2, and related initiatives
Complementary activities under the SAP

Ecosystem health

- Marine Protected Areas for biodiversity conservation and fisheries management
- Restoration and conservation of degraded, vulnerable and critical habitats
- Reduction of discharge of untreated sewage and waste water
- Reduction of solid waste and marine litter
- Reduction and control of nutrient loading
- Nutrient modelling and ecosystem health card reporting
Complementary activities under the SAP

Governance

- Increase political priority for the management of marine living resources, habitats and water quality
- More effective enforcement of laws and regulations and increase compliance
- Increase consistency and stability in policies and priorities
- Stronger coordination and cooperation
- Integrated planning across different levels of governance
- Improve local stakeholder participation
Complementary areas of work under the SAP

Socio-economics

• Reduce vulnerability to natural hazards, climate variability and climate change, and increase climate resilience
• Improve the living and working conditions of coastal fishing communities
• Empower coastal people to participate in and benefit from sustainable development practices
• Support the implementation of the SSF Guidelines
• Mainstream gender in fisheries and environment management decision making