



*Eight countries, connected by one ecosystem,
working together to secure its future.*



National Transboundary Diagnostic Analysis Consultation - Maldives

Bay of Bengal Large Marine Ecosystem Project



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NATIONAL TRANSBOUNDARY DIAGNOSTIC ANALYSIS -
MALDIVES

BAY OF BENGAL LARGE MARINE ECOSYSTEM PROJECT

Stakeholder Consultation Report

29 November 2011

Prepared by

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LIST OF ACRONYMS

BOBLME	Bay of Bengal Large Marine Ecosystem
CBO	Community Based Organization
MRC	Marine Research Center
EPA	Environment Protection Agency
MPA	Marine Protected Area
FAO	Food and Agriculture Organization
MoFA	Ministry of Fisheries and Agriculture
AGO	Attorney General's Office
EPPA	Environment Protection and Preservation Act
SAP	Strategic Action Plan
NEAP	National Environment Action Plan
NAPA	National Adaptation Programme of Action
NSDS	National Sustainable Development Strategy

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INTRODUCTION

This report presents the views of the stakeholders and comments received from the Maldives on the “Transboundary Diagnostic Analysis” (TDA) report prepared by the Bay of Bengal Large Marine Ecosystem (BOBLME) Project.

TDA is a scientific analytical report that identifies, quantifies and ranks, according to the severity of environmental and/or socio-economic impacts, water-related environmental transboundary issues and their proximate and root causes. The TDA provides the basis for a Strategic Action Programme (SAP) that will enable implementation of nationally and regionally coordinated activities to address the issues and their causes.

The Marine Research Center of the Ministry of Fisheries and Agriculture, as the national focal point of the BOBLME Project undertook an extensive consultation process to validate the TDA. The national consultation process was guided by the Terms of Reference (ToR) for national consultations provided by the Food and Agriculture Organization (FAO) in consultation with the Regional Coordinating Unit (RCU) of the BOBLME Project.

A consultation plan was developed by the MRC based on inputs from the BOBLME experts and the National TDA Consultant. The key stakeholders were identified as part of the stakeholder analysis, the agenda for the national consultation workshop and the materials to be presented at the workshop were agreed by the Marine Research Center team and the National TDA Consultant. It was also decided to use the TDA documents in English for the consultation process and to use both English and Dhivehi language for ease of communication.

The objective of the national consultation process was to review and validate the information contained in the TDA. The stakeholders were invited to review and verify the information in the TDA, while noting any errors, points that need verification, and to suggest additions and deletions. Stakeholders were also advised to assess the information and conclusions in the TDA from a transboundary perspective and to make recommendations on the appropriateness of the TDA as the basis for the SAP to be implemented by member countries.

The national validation workshop was held in Male’, Maldives on 11th September 2011, at the premises of the MRC. A range of stakeholders including government ministries, regional offices, private sector representatives and nongovernmental organizations participated in the workshop. The list of participants is provided in Annex 1.

WORKSHOP DELIBERATIONS

1. The workshop was opened by Dr. Hussain Rasheed Hussain, State Minister, Ministry of Fisheries and Agriculture. In his opening remarks Dr. Hussain pointed out that the TDA covers both national level concerns and regional level concerns. He highlighted the importance of Tuna to the economy of the Maldives and drew the attention of the participants to the lack of attention to other species of fish in the Maldives. He pointed out the critical role the small and juvenile fish play in the marine ecosystems, particularly in mangroves. Dr. Hussain noted that coral reefs are critically important for the survival and sustenance of the Maldives as a nation. He also shared with participants the importance of mangrove systems to the region.
2. Dr. Hussain explained to the participants the objective of the workshop. He stated that as a nation we views shall be expressed fully when giving endorsement. He mentioned that the key question is whether we accept the findings of the TDA at national levels. He noted that the outcome of the consultation will be reported to FAO as the decision of the Maldives and urged participants to deliberate with passion and commitment.
3. Dr. Hussain thanked the participants on behalf of the Ministry and MRC. He recalled that LME is a very important concept and activity and identified the need for Maldives to play fully her role in global environmental management. He also explained that although Ministry of Fisheries is the focal agency for BOBLME, the programme has much wider coverage and fisheries is only one component. He concluded his remarks by thanking the project staff who have organized the consultation and urged participants to identify any changes or recommendations they would like to make to the TDA.
4. Next, Dr. Shiham Adam, Director General, Marine Research Center made a presentation on the BOBLME project. He explained to the participants the origin of Bay of Bengal initiative and the contributions Bay of Bengal programme has made to the region and in particular the Maldives. He referred to the progress of BOBLME during 2001 to 2005 and how the project was implemented in the post tsunami period. He highlighted that the BOBLME is a GEF and World Bank funded project and the primary objective is to agree on strategic actions that nations can implement to protect and preserve the large marine ecosystem to meet the sustainable development needs of the present and future generations.
5. Dr. Shiham Adam mentioned about the relationship between TDA and the Strategic Action Plan (SAP). TDA is developed and validated by each country in order to make sure that the SAP when developed truly reflects interventions that are required at the national/regional level. The TDA priorities will get translated into SAP actions during SAP development. Hence, it is critical that TDA reflects national priorities and is validated nationally.

6. Following Dr. Shiham Adam's presentation, Dr. Simad Saeed the national TDA validation consultant made a presentation on the TDA and the key findings. The presentation is provided in Annex 2.
7. After the presentation by Dr. Simad Saeed, the participants were asked to present their views on the TDA. Participants expressed their satisfaction with the process that was followed in the development of the TDA.
8. Participants also endorsed the three main areas of concern: 1. Overexploitation of the marine living resources; 2. Degradation of mangroves, coral reefs and seagrass; and 3. Pollution as an appropriate basis for identification of the issues.
9. Participants endorsed that the TDA adequately identifies and ranks water related environmental transboundary issues, and their causes, according to the severity of environmental and/or socio economic impacts.
10. The participants recommended the TDA as an appropriate scientific basis for the development of the Strategic Action Plan (SAP).
11. In the deliberations that followed, the State Secretary of the Upper South Province expressed his concern that bait fishery was not given adequate attention in the TDA. He explained the difficulties faced by fishermen in the Upper South Region of the Maldives and noted that some fishermen have to dive 40 to 50 feet depth to harvest bait fish.
12. In response, Dr. Shiham Adam noted that bait fishery has to date being considered a local issue and queried the transboundary implications of bait fishery. He elaborated on the use of nets and the potential impact it could have on bait fishery.
13. Participants supported the view that bait fishery has to be given special attention in the TDA. Fishermen from the north have to travel all the way south and vice versa in search of bait fish. A participant highlighted that bait fisheries has changed much over the last two decades. It has changed to a level where bait fisheries can be considered a distortion of the term as it was originally used. What is harvested as bait fish is according to his views totally different in terms of the species, as well as the methods and techniques used for capture of bait fish. He noted that pole and line fishery for skip jack tuna is no longer the main fishery in the Maldives and is replaced by the yellow fin tuna fishery.
14. Mr. Omar Manik stated that the key issue with bait fishery is that the 10 species used as bait in the Maldives are very short lived. Although bait fishery was not a major concern in the 1980s, with the increasing size of the fishing vessels and the increase in the number of vessels bait fishery has become a serious issue.
15. Some participants questioned whether decline in bait fish is caused by the methods used such as lights and diving. On the other hand, some participants referred to the decline in bait

fish larvae. There was consensus that more research needs to be undertaken to better understand the status of bait fishery and the challenges being faced.

16. The State Secretary of the Upper South Region also urged participants to give adequate attention to the pollution issues facing communities living in coastal areas and particularly noted the issue of sewage pollution.
17. The participants noted sewage pollution as a major driver of coral reef degradation. Corals die with the nutrient load increasing and this issue is likely to escalate with the increase in population of coastal communities as well as tourism development.
18. Participants expressed their concern on the increasing level of mercury detected in the Indian Ocean tuna stocks and called for enhanced research effort to determine the cause of the problem.
19. Mr. Rilwan from Blue Peace (a national NDO) expressed concern at the lack of action from the Government on issues such as rising mercury levels in fish stocks, ratification of the CITES, ratification of RAMSAR Convention. He presented a case to include climate change as a key concern in the BOBLME, and to have an integrated perspective on all international environmental challenges. Mr. Rilwan was particularly concerned with the damages caused to sites listed in the sensitive ecosystems list of the Ministry of Environment. He recommended that the sensitive list be shared with the National Planning Council and the key policy makers and accountability be shown by concerned officials. Mr. Rilwan also posed question on what is being done to save turtles in the Maldives and expressed his concern that harvesting of turtle eggs is banned only in 11 islands. As a result, he noted that turtle eggs are sold in the local market of Male' and there is no way of checking where the eggs were harvested.
20. Dr. Shiham Adam, in response stated that Maldives participated with observer status in the last meeting of CITES held in Doha. He also noted that the ratification of CITES is under consideration by the Cabinet and a positive decision is anticipated.
21. The 2007 and 2008 global financial crisis affected fisheries in the Maldives. With the rise in fuel costs, many large vessels were out of fisheries. This had potential livelihood and food security implications.
22. Dr. Hussain Rasheed Hussain explained the changes that have taken place in the fisheries of the Maldives over the last two decades and highlighted the need for further research and better information sharing on fisheries development. He elaborated on the issue of over exploitation of fish and explained the concepts of fish availability in terms of catchability and abundance. He stated the key issue is declining resource abundance. He also noted the species composition of catches varies. The catch composition changes due to both demand as well as supply related issues.

23. In the last two years fish catch in the Maldives has declined significantly and many fishers and vessel owners faced economic and financial challenges. Vessel owners faced payment difficulties which affected the good relations fishermen had with finance leasing companies.
24. Participants also noted floating solid waste as a major area of concern for the BOBLME. The Maldives have recently experienced periods where large container loads of waste floated within the territory of the Maldives. Such waste is a result of ships offloading containers in rough weather conditions and could have devastating consequences for fishermen, marine transport and coastal communities.
25. The decline in the number of seabirds and the damage to seagrass habitats was noted by the participants. In the Maldives, the sandbanks that were frequented by seabirds often get leased for sea plane operations. Participants also drew attention to potential links to impact on juvenile fish caused by loss of seagrass habitats.
26. The participants also highlighted the issue of maritime piracy and terrorism in the Indian Ocean as an area of concern for the BOBLME.
27. In the deliberations on TDA, participants referred to the importance of both international agreements and bilateral agreements as a mechanism to address transboundary issues. In this context, participants noted the importance of cross relations with other adjacent large marine ecosystem areas (Eg: the Reunion islands). Participants also clarified the role of the Indian Ocean Tuna Commission in the context of the BOBLME project.
28. Participants identified environmental impact assessment (EIA) as a potential tool to protect the large marine ecosystems and called for strengthening of project EIAs while identifying the need for strategic environmental assessment (SEA) before decisions are made on programmes that have major implications on the environment.
29. Participants identified lack of information sharing among key government agencies as a major hindrance to protection of environment and ecosystems. As an example, the sensitive list of islands is not shared among key agencies of the government, while many agencies are not aware of the turtle protection measures undertaken by the Government.
30. Participants urged the government to consider creating fisheries officer jobs in the seven regions to follow the decentralization model of governance. These positions can be used to improve significantly data collection and data sharing from the islands and atolls. Participants deliberated on the role of island and atoll councils and the need to use councils more effectively for the protection of the ecosystems and fisheries in the Maldives.
31. In response, the Ministry of Fisheries and Agriculture stated that 37 islands have fisheries officers and there is a human resource plan to position two fisheries officers in each atoll of the Maldives. The Ministry of Fisheries and Agriculture also noted that there is now an automated online system to input data on fish catch. With the use of the software, there is opportunity to receive daily fish catch data.

32. The following recommendations were made to improve management of ecosystems and fisheries:

- The utilization of decentralized governance structure (councils)
- More frequent TV Programmes on resource management
- Better information dissemination
- Outreach, awareness and capacity building
- The efficient use of website for real time data entry
- Establishment of a voluntary register of fishermen
- Introducing vessel tracking and monitoring systems
- Introduction of export bans on sharks
- Matching of action with written policies
- Harmonizing mandates to avoid overlap

CONCLUSIONS

The participants of the national workshop endorsed that:

- a) the process followed in the development of the Transboundary Diagnostic Analysis (TDA) was adequate and acceptable
- b) the TDA has accurately identified water-related environmental transboundary issues and their proximate and root causes of the BOBLME
- c) the attempt to quantify and rank transboundary issues in the TDA where applicable was satisfactory,
- d) the TDA is an appropriate basis for the development of the Strategic Action Programme.

The participants made the following recommendations as input for the formulation of the SAP:

- a) Decentralized good governance is essential to address water related environmental transboundary issues
- b) Capacity building is a critical need in the region, particularly at the local levels of governance
- c) BOBLME is inter-linked to other large marine ecosystems in multi-facets and hence a mechanism to have dialogue, collaborate and co-operate with countries outside the BOBLME needs to be identified
- d) Mechanisms to enable better sharing of scientific data and information among member countries needs to be established or strengthened.
- e) Several international agreements exist that have direct relevance to BOBLME and effort is needed to identify where synergy can be gained
- f) Climate change is a major environmental challenge for the BOBLME and more emphasis needs to be given to adaptation to climate change and mitigation of climate change. In this context, adaptation related research must become a priority.

ANNEX 1 - LIST OF PARTICIPANTS

Mr. Hussain Fahumee

Councillor

Addu City Council

Mr. Mohamed Waheed

Deputy General Manager

Felivaru Fisheries Maldives

Mr. Ahmed Zahir

State Secretary

Upper South National Office

Captain Rizmee

FEO, Coast Guard

Maldives National Defence Force

Mr. Mohamed Lirar

Councillor

Fuvahmulaku Atoll Council

Mr. Mohamed Muththalib

Senior Research Officer

Ministry of Fisheries and Agriculture

Mr. Mohamed Suaad

State Secretary

Fuvahmulah National Office

Mr. Hussain Sinan

Senior Research Officer

Ministry of Fisheries and Agriculture

Mr. Abdulla Nabeel

Marine Services Officer

Hithadhoo Port Limited

Mr. Mohamed Ahusan

Senior Research Officer

Marine Research Center

Mr. Omar Manik

Chairman

Fishermen's Association

Ms. Fahmeeda Islam

Senior Research Officer

Marine Research Center

Ms. Hawwa Shakeela

Desk Officer

Ministry of Foreign Affairs

Dr. Shiham Adam

Director General

Marine Research Center

Mr. Ali Rilwan

Executive Member

Bluepeace

ANNEX 2 – PRESENTATION ON TDA

Transboundary Diagnostic Analysis
Validation Consultation

Bay of Bengal Large Marine Ecosystem Project
Male' – Maldives
11 September 2011

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 ފަދަ ސަރުކާރުގެ ފަރާތްތަކުގެ ފަރާތުން ފެންނަ

6.2 ފަދަ ސަރުކާރުގެ ފަރާތްތަކުގެ ފަރާތުން ފެންނަ
 4.3 ފަދަ ސަރުކާރުގެ ފަރާތްތަކުގެ ފަރާތުން ފެންނަ
 144000 ފަދަ ސަރުކާރުގެ ފަރާތްތަކުގެ ފަރާތުން ފެންނަ
 1.78 ފަދަ ސަރުކާރުގެ ފަރާތްތަކުގެ ފަރާތުން ފެންނަ (25% ފަދަ ސަރުކާރުގެ ފަރާތްތަކުގެ ފަރާތުން ފެންނަ)
 450 ފަދަ ސަރުކާރުގެ ފަރާތްތަކުގެ ފަރާތުން ފެންނަ

4.5 ފަދަ ސަރުކާރުގެ ފަރާތްތަކުގެ ފަރާތުން ފެންނަ
 2.2 ފަދަ ސަރުކާރުގެ ފަރާތްތަކުގެ ފަރާތުން ފެންނަ
 1154000 ފަދަ ސަރުކާރުގެ ފަރާތްތަކުގެ ފަރާތުން ފެންނަ
 6 ފަދަ ސަރުކާރުގެ ފަރާތްތަކުގެ ފަރާތުން ފެންނަ
 4 ފަދަ ސަރުކާރުގެ ފަރާތްތަކުގެ ފަރާތުން ފެންނަ

ފަދަ ސަރުކާރުގެ ފަރާތްތަކުގެ ފަރާތުން ފެންނަ
 ފަދަ ސަރުކާރުގެ ފަރާތްތަކުގެ ފަރާތުން ފެންނަ
 ފަދަ ސަރުކާރުގެ ފަރާތްތަކުގެ ފަރާތުން ފެންނަ

ދިވެހިރާއްޖޭގެ ސަރުކާރުގެ ފަރާތުން
 27 ޖޫން 2017 ވަނަ ދުވަހުގެ ތާރީޚުގައި
 4 ޕްރޮސެކިއުޓަރ ޖެނެރަލްގެ އޮފީހުގައި ބައްލަވާލެވިފައިވާ
 50% ފޮޓޯކޮޕީ ޕްރިންޓް ޕްރޮސެސިންގ ޕްރޮސެޑަރުގެ ދަށުން

އަވަދު ޖެނެރަލް ޕްރޮސެކިއުޓަރ ޖެނެރަލްގެ އޮފީހުގައި ބައްލަވާލެވިފައިވާ
 ޖެނެރަލް ޕްރޮސެކިއުޓަރ ޖެނެރަލްގެ އޮފީހުގައި ބައްލަވާލެވިފައިވާ

އަވަދު ޖެނެރަލް ޕްރޮސެކިއުޓަރ ޖެނެރަލްގެ އޮފީހުގައި ބައްލަވާލެވިފައިވާ
 ޖެނެރަލް ޕްރޮސެކިއުޓަރ ޖެނެރަލްގެ އޮފީހުގައި ބައްލަވާލެވިފައިވާ

ޖެނެރަލް ޕްރޮސެކިއުޓަރ ޖެނެރަލްގެ އޮފީހުގައި ބައްލަވާލެވިފައިވާ
 ޖެނެރަލް ޕްރޮސެކިއުޓަރ ޖެނެރަލްގެ އޮފީހުގައި ބައްލަވާލެވިފައިވާ
 ޖެނެރަލް ޕްރޮސެކިއުޓަރ ޖެނެރަލްގެ އޮފީހުގައި ބައްލަވާލެވިފައިވާ
 ޖެނެރަލް ޕްރޮސެކިއުޓަރ ޖެނެރަލްގެ އޮފީހުގައި ބައްލަވާލެވިފައިވާ
 ޖެނެރަލް ޕްރޮސެކިއުޓަރ ޖެނެރަލްގެ އޮފީހުގައި ބައްލަވާލެވިފައިވާ

ޖެނެރަލް ޕްރޮސެކިއުޓަރ ޖެނެރަލްގެ އޮފީހުގައި ބައްލަވާލެވިފައިވާ
 ޖެނެރަލް ޕްރޮސެކިއުޓަރ ޖެނެރަލްގެ އޮފީހުގައި ބައްލަވާލެވިފައިވާ
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 ޖެނެރަލް ޕްރޮސެކިއުޓަރ ޖެނެރަލްގެ އޮފީހުގައި ބައްލަވާލެވިފައިވާ
 ޖެނެރަލް ޕްރޮސެކިއުޓަރ ޖެނެރަލްގެ އޮފީހުގައި ބައްލަވާލެވިފައިވާ

- Overexploitation of marine living resources
- Degradation of mangroves, coral reefs and seagrass
- Pollution

Overexploitation of living marine resources

1. Decline in overall availability of fish resources;
2. Changes in species composition of catches
3. High proportion of juvenile fish in the catch;
4. Changes in marine biodiversity, especially through loss of vulnerable and endangered species.

Trans-boundary Nature

- Many fish stocks shared among BOBLME countries either through transboundary migration of fish or larvae;
- Fishing overlaps national jurisdictions, both legally and illegally - overcapacity and overfishing in one location forces a migration of fishers and vessels to other locations;
- All countries (to a lesser or greater degree) are experiencing difficulties in implementing fisheries management, especially the ecosystem approach;
- BOBLME countries contribute significantly to the global problem of loss of vulnerable and endangered species.

Proximate Causes

- Excessive fishing effort and overcapacity
- Destructive fishing methods
- Unselective fishing practices and gear
- Illegal, unregulated and unreported (IUU) fishing, both national and international

Root Causes

- "Open access" regime;
- Increasing fishing effort, especially trawlers and purse seiners;
- High consumer demand for fish, including for seed and fish meal for aquaculture;
- Weak fisheries MCS and enforcement
- Strong incentives to encroach into areas with better returns.

Degradation of Critical Habitats

1. Loss and degradation of mangrove habitat
2. Degradation of coral reefs
3. Loss and damage to seagrasses

Trans-boundary nature

- All three critical habitats occur in all BOBLME countries
- Coastal development for other uses of the land and sea are common in all BOBLME developing countries
- Trade in products from all the habitats is transboundary in nature
- Climate change impacts are shared by all BOBLME countries

Proximate Causes

- Conversion of mangroves for agriculture, aquaculture (shrimp), and salt production;
- Expanding coastal development for industry, human settlement and tourism, including reclamation;
- Unsustainable logging of mangroves;
- Increasing pollution, eutrophication and sedimentation;
- Destructive fishing practices (poisons, explosives, trawling and push-netting); and
- Coastal modification, including coral and sand mining, dredging and reclamation;
- Natural causes, especially coral bleaching.

Root causes

- Food security needs of the coastal poor;
- Lack of national, provincial/state coastal development plans.
- Increasing trade (both domestic and export) for habitat-related products;
- Coastal development and industrialization;
- Ineffective marine protected areas and lack of enforcement;
- Intensive upstream agriculture practices;
- Increasing tourism;
- Climate change.

Pollution

1. Sewage-borne pathogens and organic load
2. Solid waste/marine litter
3. Increasing nutrient inputs
4. Oil pollution
5. Persistent organic pollutants (POPs) and Persistent toxic substances (PTSs)
6. Sedimentation
7. Heavy metals

Trans-boundary nature

- a common problem; sewage and organic discharges from the Ganges-Brahmaputra-Meghna system are likely to be transboundary;
- Plastics and derelict fishing gear can be transported long distances across national boundaries;
- High nutrient discharges from rivers could intensify large-scale hypoxia; atmospheric transport of nutrients is inherently transboundary

Trans-boundary nature

- Differences among countries with regard to regulation and enforcement of shipping discharges may drive discharges across boundaries; tar balls are transported long distances;
- POPs/PTSs and mercury including organo-mercury undergo long-range transport;
- Sedimentation and most heavy metal contamination tend to be localized and lack a strong transboundary dimension.

Proximate Cause

- Untreated or only partially treated sewage;
- Untreated or only partially treated industrial discharges, especially from small industries;
- Discharges of solid waste into rivers and coastal waters; Burning of solid waste;
- Increasing fertilizer use in agriculture;
- Increasing aquaculture;
- Increasing atmospheric emissions of nitrogen from industry and fossil fuel burning;
- Operational discharges of oil from shipping, dumping of used oil from small boats and land vehicles.

Root Causes

- Increasing coastal population density and urbanization;
- Increasing per capita consumption;
- Migration of industry into BOBLME countries, and a proliferation of small industries;
- Low per-capita GDP
- Inadequate investment in water management and wastewater treatment;
- Lack of reception facilities for used oil and oily wastes;
- Lack of enforcement of environmental regulations;
- Lack of awareness of policy makers, legal system, and civil society

Thank You



Bangladesh, India, Indonesia, Malaysia, Maldives, Myanmar, Sri Lanka and Thailand are working together through the Bay of Bengal Large Marine Ecosystem (BOBLME) Project and to lay the foundations for a coordinated programme of action designed to improve the lives of the coastal populations through improved regional management of the Bay of Bengal environment and its fisheries.

The Food and Agriculture Organization (FAO) is the implementing agency for the BOBLME Project.

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For more information, please visit www.boblme.org



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